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SEPTEMBER 1952

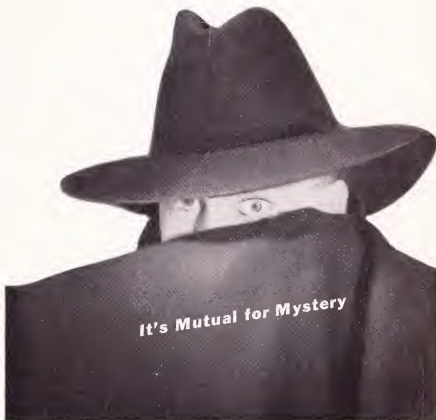
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# *Astounding* **SCIENCE FICTION**

SEPTEMBER 1952

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# THE LAWS OF SPECULATION

The story has it that Isaac Newton was sitting under an apple tree, and by direct observation of the fall of an apple, was led to the discovery of the Law of Gravity. Every one of us has, in the course of schooling, learned *what* Newton thought—but none of us knows *how* Newton thought. It is a rather considerable leap from the gentle impact of an apple on the head to the stupendous force that reaches out across interstellar space to hold the stars of the galaxy in a swinging, rotating system.

No man has ever been able to express in detail *how* he thinks; Newton tried to solve that problem, too—but while he had tackled and resolved the problem of light, gravity, sound, and a new system of mathematics, he never did resolve the problem of how he did his thinking. When a man can't solve the problem he tackles, it's usually

because he lacks some of the essential key data; evidently Newton did, as did all the philosophers of the ages so far. Some one of these days, though, the necessary keys will be on hand, and the trick will be done.

In the meantime, I suggest that a great advance could be made if we studied—really studied as a serious and critically important project—the Laws of Speculation. Our present society is seriously starved for open, public, cross-checked speculative thinking. Actually, in the world today, this magazine is one of the few media for true, scientific speculation. Yet speculation is actually absolutely essential to the development of new processes in our culture.

There appear to be seven necessary steps in the development of any process. Check these for yourself, and see if they appear valid.

1. The Wish step.

It's essential that there be a wish before anything is done. The wish may be specific, as "I wish I could fly—" or it may be general, as "I wish I knew more—" But there must be a wish.

2. The Speculation of Value.

If the wish is considered, its value must be considered also. "I wish I could go to the Moon," must be evaluated in terms of advantages and disadvantages. The probable gain and loss in terms of effort and material, happiness and sacrifice.

3. The Speculation of Method.

If the wish is considered desirable in terms of motive-values, happiness and sacrifice, then the method of carrying it out must be considered. Actually, these two steps will, inevitably, be interacting, because some methods involve less sacrifice. With improvement of method, the unworthwhile wish may become desirable. If you could go to the Moon, and live there only one week, and could not return, would it be worth while going? But if you could return? And if the process cost billions, would it be worth while for the Nation? But if a different method allowed doing it for a million?

4. Theory Step.

When speculation of method-in-general is going on, the theory

step, involving actual figures in tons, dollars, and people must be considered. Theory represents a detailed plan of action.

5. Experimental Step.

Theory and experiment will go through anywhere from one to ten thousand cycles; the theory will be tried out in laboratory experiment, altered because of experimental discoveries, re-examined by experiment, until finally a theory that works is derived.

6. Experimental Model Step.

This, in chemical engineering, is known as the "pilot plant" step. In electronics it's the "breadboard model" step. It's trying out the experimental units in a semi-practical mock-up.

7. Production Step.

The Wish is fulfilled by an actual operating process.

Actually, in our society, Speculation is regarded as somehow indecent, improper, and unmentionable. There is no professional journal wherein a scientist is free to speculate publicly to any extent. The actual speculative work of science is, instead, done in private, in a bull session, and at the verbal level. No published speculation appears; only when the theory level has been well advanced, after the actual thinking is completed, do we permit public announcement. It's rather curiously like the society's attitude toward sex; publicly, it is held that no

*(Continued on page 151)*

# THE ENTREPRENEUR

BY THOMAS WILSON

*When you start mixing timelines, misunderstandings, and extraterrestrial races — a Soviet ruled world and smart businessmen from Outside . . .*

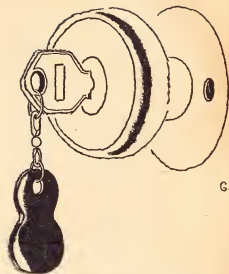
Illustrated by Pawelka

Barl Lindow passed one of the crisp twenties to Smithov. "Look at the date, Ivan."

The Communist looked. "Nineteen sixty," he exclaimed hoarsely. "Why, them dumb joiks in th' Commissariat of Engravin'—"

Chair springs creaked as Hingolyin, the big Vegan, shifted in his blankets. "De gurrency iss nodd spendable?"

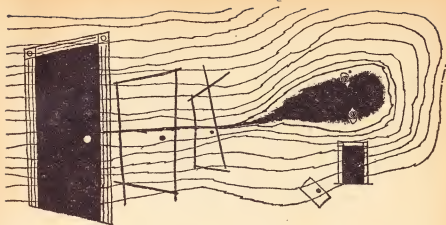
"Hardly. Not in Washington, D. C., July, 1953." Lindow's cold amethyst eyes held Smithov. "Ivan, I didn't bring the representatives of two time tourist agencies"—his gesture swept Hingolyin and Mrat-See Hrasech of Wolf II—"one hundred seventy-two years into your past so they could



have the privilege of witnessing a series of stupid blunders. I've got money tied up in this deal—good Galactic credits. And I don't intend to lose it because of your bungling. Try to get that through your simple Communist skull."

Smithov winced involuntarily at the dread word, "simple." "Keep yer shoit on," he growled impatiently. "Everyt'ing's unner control. I got a bundle o' hay—"

"First," Lindow interrupted inexorably, "there wasn't any furniture in the apartment on Fifteenth Street. We had to come here to a hotel. Obviously that increases the danger of exposing the nonhumanity of my clients.



Now the money you give us is no good—we can't spend it." He regarded the Communist with acid disapproval. "Well, Ivan?"

"Brittski an' Johnsonov were supposed to look after the foiniture angle," Smithov said sharply. "They musta slipped up—"

"They were operating under written orders from you, weren't they, Ivan?"

"Yeah, but I—"

"Let's just check with the furniture store." Lindow strode to the phone and began to thumb through the directory.

"It's nuts," Smithov muttered. "It don't make sense—"

Mrat-See agreed. Even taking into account the usual Soviet brand of incompetence, it didn't make sense. Behind the dark glasses his huge eyes regarded Lindow speculatively. Could

the Capellan have known about the currency and the furniture in advance? He had been quick to suggest a hotel, had seemed to have suitable suggestions for American names for Mrat-See and Hingolyin on the tip of his tongue—

But that didn't make sense either. The CapSol Trading Corporation had invested most of its ready cash in the chronological probability tracer and attendant services. Lindow was a partner in CapSol, and he wouldn't sabotage himself—

For the hundredth time Mrat-See wondered about those "service charges." CapSol had paid through the nose for them, but so far he had seen no sign of any technicians or other special considerations. Of course, there were those graphs he had glimpsed on Lindow's desk—

Hingolyin nudged him. "No money,

no zight zeeking drips," he stated with ponderous satisfaction. "Varm in de hodel ve stay, and de pneumonia veather off dis world excape."

Mrat-See's whiskers twitched delicately. "I find it much soo warm already, sank you." The sight of the rotund Vegan cocooned in his nest of pink blankets brought fresh perspiration from the Merovian's body. He could not imagine any being finding this tropic place too cold.

"At de dime dourist game you are new, iss it nodd?" Hingolyin rumbled.

Mrat-See fiddled nervously with the flesh mask in his lap. Was it possible that this large creature suspected the true reason he was here?

"Sis is my first survey srip, yes," he replied carefully. And, he added silently, his last. As soon as he pocketed the Interstellar Bank's check for this job, it would be home and his beloved Sath-San.

Hingolyin nodded. "In de game ofer t'irty years I haff been," he remarked smugly.

Lindow cradled the phone. "The store's orders were to deliver the furniture next week, Ivan," he said coldly.

"I tol ya Brittski an' Johnsonov—"

"Were operating under your instructions. When the government of the Terrestrial Soviet gave me permission for this chron-jump, it unfortunately saw fit to put you in charge of making arrangements for our visit and sent you along to supervise the trip.

All you've done so far is get in my hair."

Smithov flushed. "Money," he spat. "Dat's all you capitalists got on ya minds, money. Always tryin' a cheat the downtrodden woikers, ain't ya? Always gripin' an' beefin' when ya can't sneak a fas' buck."

"Downtrodden workers?" Lindow laughed sarcastically. "CapSol's been trying to do business with your backward little world for five years—trying to bring you the tools, the ideas, and the know-how you need so you can grow up and take your place in Galactic civilization—trying to help *your* downtrodden workers. And what do we run into? Suspicion, surveillance, red tape, blocked currency, iron barriers, stupidity. Sure, we're trying to make a few credits. We're not philanthropists. But we'd be helping you while we helped ourselves—if you'd let us, instead of hamstringing us at every turn.

"Downtrodden workers? If anyone's downtrodden in this deal, it's CapSol. I'm half of CapSol, Ivan—and I'm sick of listening to your half-baked excuses."

"If you t'ink you can make me jump like a monkey on a string just so's you can make a coupla bucks," the communist shouted, "you got anudder t'ink comin'. Ain't no blue-skinned baboon—"

Lindow grabbed a handful of shirt. Smithov's eyes bugged and his heels left the floor.

"What did you say, Ivan?"

Ivan snarled incoherently.

Lindow shook him. "About blue skin," he reminded.

"Yer skin's blue unner dat makeup, ain't it?" Smithov said sullenly.

"You object to blue skin, Ivan?"

Smithov licked his lips. "Naw," he replied grudgingly. "I ain't got nothin' against it."

Lindow laughed and let him go. "I'll tell you a little secret, Smithov. Several big boys in your Commissariat have ordered weather-conditioning units for their country estates. They're counting on this expedition of ours to provide the credits to pay for their little gadgets. If you don't get on the ball, they might be peeved. They might even decide that you needed simplification, Ivan."

Involuntarily Ivan shuddered. "I keep tryin' a tell you everyt'ing's unner control," he shouted. "I got—"

"You know what simplification is, don't you, Ivan?" Lindow continued relentlessly. "They take your emotions away from you, Ivan. You can still walk around. You can still do work—simple work. But you don't feel anything. You're a robot. And you know what happens to your family when you're simplified, don't you, Ivan? But of course it doesn't matter then. You're already simplified, so you don't care. You *can't* care."

Terror peered from Smithov's eyes. "Ain't nobody gonna simplify me," he screamed. "Nor put me in no woik

camp neither. I got t'ings unner control, everyt'ing's gonna be jake. Dere's a bundle o' hay stashed away, more green stuff dan we'd need in a week o' Sundays, an' it's de real McCoy, see?"

Mrat-See turned to Hingolyin in bewilderment. "What is he saying, please?"

The big one shrugged. "Efidently in de bresent day idiom he speaks. Conditioned so for de drip he vass."

"O.K.," Lindow said harshly. "But I'm telling you straight, Ivan, if you aren't back here in an hour with spendable money—if you botch things again—I'm going to pull every string I can grab to see that you're made into a simple boy when we get back. Understand?"

Smithov strode to the door, his face working. "Don't count on nothin' like dat, big boy," he snarled. "An' de rest o' you guys—I want you should stay planted right here an' cool off 'til I get back wit' de do-re-mi, see? Them's orders."

"Cool off?" Mrat-See echoed hopefully. "Gladly, sir, gladly."

Hingolyin drew his blankets closer about him. "Vass he delling us to catch colder while he iss away?"

Smithov snorted in disgust and the door slammed behind him.

"Sorry about this, fellows," Lindow said, not seeming sorry at all. He began to whistle a lilting tune and vanished into the room he shared with



Smithov.

Hingolyin sighed deeply. "Vun must hiss spirit admire, iss it nodt? So cheerful for a ruined man."

"Sst?" Mrat-See hissed questioningly, inwardly regarding the Capellan's cheeriness with some suspicion.

"Hiss hard earned fortune in de CapSol Drading Corporation invested, and CapSoliss about to go. Yes, vun must spirit in de face of adversity admire."

Mrat-See leaned forward eagerly. "You know somesing of Lindow's affairs?"

Hingolyin winked slyly. "An adventurer he iss. A soldier of fortune businessman turned—and iss dat nodt but anudder vay of saying a goose for de plucking ripe?" He nodded sagely. "On salary you are, I hope?"

"Ssst?"

"Commissions from dis drip slim will be."

Mrat-See wondered if Hingolyin was trying to pump him. "Yes, I am salried, sank you. But Lindow—?"

"In hiss eyes can you nodt see de gleam of de comets and de suns? A vanderer and a varrior—"

Mrat-See cocked a quick ear and heard the warrior moving about in the next room. Perhaps the wanderer would remain in the hotel. Fervently Mrat-See hoped so. He did not relish the prospect of a chase on this primitive planet.

"You say Lindow is in financial straits, ho?"

"A babe in de financial forest, I fear. In de Interstellar Patrol he vass, den a dest pilot on vun of de worlds of Alpheratz. Hiss savings in a sieve of a hulk he invested and a didy fortune running de Rhand blockade of de Rim made. And now—Ah vell, he vill probably make anudder."

"CapSol is in danger of bankruptcy, sen?"

"How can it be othervise? On drade vith de Terrestrial Soviet for its life it depends, and who vith de Soviet could drade? Blocked rubles, backvard technology, goods for its own peoples insufficient, de fear and suspicion of de ruling class agâinst de contamination of foreign ideas—No, my poy, de Soviet does nodt vish to drade. A few piddling items—nodding more."

"But sese weaser-conditioning plants Lindow mentioned—"

Hingolyin smiled knowingly. "Luxuries for de rulers—dat iss all. Jaim Farlow, Lindow's bartner, drade to build up attempts by bribing dem vith cut-rate goods, vith gifts. Deir attitude toward foreign tings to soften so he hopes." The Vegan spread his hands. "Who knows? In t'irty, fifty years, such a policy might succeed. But de fruits of it reaped by CapSol vill nodt be. In six months CapSol vill be gebust."

"Perhaps a loan to side sem over—"

Hingolyin's eyes twinkled shrewdly. "You know more dan you pretend, my poy. Loans dey haff gotten, more loans dey haff applied for. But—who

would be so foolish, eh?"

"Se sime sourist srade may prove lucrative," Mrat-See suggested.

"Pah. On such a vorld as dis, tiny and cold, under de vatchful eye of a shealous government?"

Mrat-See found Terra just the opposite of tiny and cold, but he kept his feelings to himself.

"It iss drue," Hingolyin mused, "dat de Galactic Chronological Commission an unlimited license to Lindow gave. For a blanet vhere de probability sequential line hass nodd been thoroughly investigated and stabilized, most unusual dat iss—"

Briefly Mrat-See wondered if some of CapSol's exorbitant "service charges" might not have been official palm grease for that unlimited license. But for what purpose? Such licenses were always temporary—

"Of course," Hingolyin continued, "de Soviet government hass de right dravel to certain periods to forbid. I understand all time subsequent to de Communist Conquest closed off dey haff, and all Communist territory prior to dat—But de vord of an old hand at de game take, no road to riches in de dime dourist drade vill CapSol find."

"Is it expensive?" Mrat-See asked innocently. "Gessing into se chron-sourist business?"

"Oh—" Hingolyin scratched the flesh cowl of his head thoughtfully. "A chronrac like Lindow's—de machine itself, you understand—maybe a half

million credits costs."

"And se service sharges?" Mrat-See put in quickly.

"Serfice charges? For vat?"

"Aren't sere extra sharges for services or somesing which accompany se purchase of a machine?"

Hingolyin shook his head. "Nodd dat I know of."

Mrat-See tried to hide his disappointment. He heard Lindow's door open and close, and his heart sank. Hastily he removed his dark glasses, blinking in the garish light, and pulled the flesh mask over his head. If before his appearance had been somewhere between that of a cat and a slow loris, now with the mask it was quite passably human.

"You are nodd leafing?" Hingolyin asked, astonished.

"A small walk, I sink," Mrat-See replied, hoping his words would be prophetic.

Hingolyin shook his head and settled ponderously back in his blankets. "Eager beafer," he muttered disgustedly.

From the lobby Mrat-See watched Lindow enter a cab and ride away. He scurried outside and leaped into the next taxi.

"Follow sat car," he urged breathlessly.

"Sure, Mac."

Tensely Mrat-See sat forward on the edge of the seat as the cab lurched ahead. He felt rather melodramatic

and a trifle afraid. His hand touched the little stun gun in his side pocket, and some of the fear vanished.

He should not have brought the gun, of course. Its power source was beyond the technology of this era, and its possession here was forbidden. But he was an accountant, not a detective, and the gun was comforting—even set as it was on low, nonlethal discharge.

The role the little Merovian was playing was one he did not relish. Still, five thousand credits was five thousand credits. He fingered the two green spacegrams from the Interstellar Bank of Alpha Centauri which had plunged him into a secret survey of CapSol's books and had brought him into the past of this quaint planet to spy on Lindow.

Well, it was worth it. Five thousand credits—with his savings—would take him back to Merow and enable him to post filial surety with Sath-San's father. The thought of Sath-San brought a sigh to his muzzle. Her smooth blond fur and gentle luminous eyes had been constantly in his dreams during the two miserable years he had spent on Terra working for various foreign firms at the Intergalactic Spaceport of Yorkgrad.

But those dreams must wait a little longer, until this last assignment was completed.

Curious, this interest by the bank in Lindow's doings. Mrat-See felt rather sorry for the Capellan. His re-

quest for an additional loan could not possibly be given serious consideration. CapSol's position was too precarious. And, as Hingolyin had said, who would be so foolish? Still—

With a start Mrat-See remembered the currency. Extracting one of the twenties, he unsheathed a finger claw and scratched out the offending date. This left a white mutilation which stood out on the green background, but he remedied this by moistening the spot and rubbing it on the sole of his shoe. Contemptuously he wondered why Smithov had not thought of this simple procedure.

His precautions were taken none too soon. The cab slowed.

"Your friend's stoppin' down the block, Mac," the cabbie said over his shoulder. "You want I should let you off here or cruise on past?"

"Stop here, please."

Lindow was standing on the sidewalk surveying the buildings before him. With his eye on the Capellan, Mrat-See passed the doctored twenty.

"You want I should take out my tip, Mac?"

"Sst?" Mrat-See saw that Lindow was walking away at a leisurely pace.

"My tip. Tailed your friend pretty good, didn't I?"

"Zzt." Dimly Mrat-See began to understand that the fellow was requesting some sort of bribe.

"A buck plus the fare about right, Mac?"

"Have soo, please," he replied

generously, his conscience twitching mildly about the bad bill.

"Two? Sure, Mac. Thanks."

Mrat-See nodded magnanimously. He clambered from the cab as Lindow entered one of the buildings. Carefully marking the spot, he set off at a brisk pace.

Immediately sweat began to stream from his body.

Mrat-See had been on Terra two years, and had considered himself acclimated to the terrible white heat of Sol. But one born under the gentle rays of an M8 sun never quite becomes accustomed to the heat of a G3; and those years had been spent in the Soviet of the future where he had gone abroad clad in the simple white robe of his race. It was, he found, a different story now. Washington is not a cool place in July, and the strange, snug garments itched and prickled, the flesh mask stifled, and he sweltered.

The building Lindow had entered bore a sign, Billiard Parlor. The name meant nothing to Mrat-See. Cautiously he peered through the large windows.

The place was filled with tables around which men with long sticks stalked stealthily. Occasionally one would pause, take aim, and swipe at a table with his stick. This action was usually accompanied by a clacking sound and various grimaces from the other men.

At first Mrat-See did not see his

quarry. Then a door, barely visible at the rear, opened for a moment and Lindow's tall figure was silhouetted slipping through.

Mrat-See's whiskers twitched with indecision, rubbing against the flesh mask in the process. He sneezed violently and his eyes began to water. He did not want Lindow to discover that he was being followed; still, it was necessary to know what the Capellan was doing in order to make a comprehensive report.

He wriggled, and every hair of his moist pelt prickled with a needle of heat. If it were not for Sath-San, he thought, it would not be worth it.

Unobtrusively he pushed through the door, grateful at escaping the blazing eye of the sun. Timidly he gazed about. No one paid any attention to him.

He saw that the humans with the sticks were striking colored spheres on the tables, apparently creating temporary abstract patterns by their strokes, then standing back critically to survey the result. Sometimes they were displeased, and then they struck again. They did not especially resemble the artists whom Mrat-See had encountered previously, but artists they must be.

He watched their work for several minutes, but found himself unable to gain any particular appreciation of this unfamiliar aesthetic form. Hesitantly he edged toward the rear. An extremely large human was sitting be-

side the door there, and the scowl he wore did not signify a friendly nature.

Mrat-See decided to wait and watch. Traffic through the door was not heavy, but it was steady. Those who entered received a scowling scrutiny from the guardian, some gaining a quick nod, others being forced to show something which they held concealed in their hands. The doorway opened on a narrow, dimly lighted hall, but what lay beyond this hall Mrat-See was unable to determine.

However, there was apparently no harm in trying to find out. Stoutly he strode to the door.

The scowling individual bit down on the stub of a cigar. "Where you think you're goin', Mac?" he grated through his teeth.

Mrat-See marveled that all the denizens of this era seemed obsessed with the strange conviction that his name was Mac.

"Srough sis door, please," he said, twitching his muzzle in an effort to make the flesh mask smile. His whiskers began to tickle.

"You got a card from Big Moe, Mac?"

Mrat-See sneezed explosively.

"Don't do dat in me face again, Mac," the big man warned grimly. "It spreads goims."

"Sank you," Mrat-See replied politely, reaching for the door.

The large human moved with deceptive speed, towering a good eight inches above the slight Merovian. "I

ast you onct, Mac, if you got a card from Big Moe."

"No sank you. No cards, please." Mrat-See edged aside, trying to find a way around the guardian bulk.

"Beat it, Mac."

"Sst?" Inquiringly Mrat-See looked up at the frowning face.

"Scram. Take a powder."

Mrat-See decided that this human must be speaking the incomprehensible idiom to which Smithov had been conditioned. But his action made his meaning more than clear. -

"You do not wish sat I enter?"

"You catch on."

"But I must discover what my friend does inside," Mrat-See hissed frantically. "I cannot make se report complete otherwise—"

"So you wanta make a report, huh?" A violent hand grasped the Merovian's arm and a threatening visage breathed upon him hoarsely. "Blow," the visage said.

The word reeked of dead cigar and garlic. Mrat-See sneezed. He felt himself spun and propelled through the air. Catlike he landed on all fours, snarling at the indignity.

The human straddled the chair by the door, brushing his hands together with satisfaction. "You an' yer goims both," he growled.

Several of the men with sticks were grinning at Mrat-See in a manner not calculated to assuage his feelings. He got to his feet trembling with rage.

On Merow, the human's actions would have constituted a clear challenge to personal combat, and Mrat-See growled deep in his chest thinking of the damage his claws could inflict on furless hide. However, he knew the man's huge hands could snap bones if given a good grasp.

Thoughtfully his hand dropped to his pocket and touched the stun gun. At this gesture, the big man's mouth fell agape, and the men near him hastily backed away.

Mrat-See decided that the man's attitude indicated a disinclination to pursue the battle further. He snarled once, twitched his tail against his trouser leg, and walked away.

Behind him the big man motioned to one of the pool players and whispered to him urgently. The other nodded and vanished through the zealously guarded door.

Mrat-See found a seat on a bench against the wall and settled down to wait. An unshaven human with a newspaper glanced at him incuriously and returned to his reading. Lindow, he hoped, had not left by a rear exit. That would be awkward—

Dismissing this contingency as one he could do nothing about in any event, Mrat-See slid closer to the unshaven human so the pages of the creature's paper would offer him partial concealment should the Capellan appear unexpectedly.

In a few moments, the human sniffed audibly, glanced sharply at Mrat-See,

and retreated along the bench. Mrat-See followed. The human snorted, coughed, and moved again. Mrat-See noted that the other had reached the end of the bench and could retreat no farther, so once more he sidled in pursuit. The perverse human rose hastily and walked away.

Strange creatures, Mrat-See thought. He squirmed in an effort to get his sodden garments unplastered from his pelt. The heat of garb such as this was almost unbearable. Why, he wondered, did the humans choose to torture themselves with it? Even the tan color of the things was blotched and darkened by the perfuse perspiration they caused.

A sudden suspicion smote him. Perhaps, when sweat soaked, the dyes of the material gave off odors offensive to humans. That would account for the strange behavior of the unshaven one. Of course, Mrat-See's own aroma was standing out rather proudly. He decided to spread a paper of his own for concealment.

Surreptitiously he watched the mysterious doorway. Why should the large guardian wish to interfere with his making a report to the bank concerning Lindow's activities beyond the portal? What could warrant such denial of admission?

In the Soviet of 2125, such closely guarded activity might signify the meeting of a forbidden literary club where old capitalist books were eagerly read—books of adventure and ro-



mance and freedom. Or a game society indulging in such heinous pastimes as poker or bridge— Or even, perhaps, some abortive cabal with the futile dream of revolution.

But here, he believed, such things were freely permitted. These people elected their governors at periodic intervals as did all truly civilized societies—although he was under the hazy impression that they did not regard these governors too highly. They possessed the right of freedom of speech and opinion. Briefly Mrat-See specu-

lated about the causes of Terra's regression during the coming centuries—

Be that as it may. Obviously the thing here behind the door was illegal. What illegal pursuit in this society would attract Lindow?

The Capellan needed money—  
Gambling. Of course.

Gambling was the perfect way for a man from the future to acquire currency in a hurry. This obvious explanation should have occurred to him before, but he had been deceived by the extraordinarily ingenious camou-

flage of the front of the place. Who would suspect gambling in connection with a salon of abstract art?

But to gamble with assurance of success, Lindow would, of necessity, wager on results already known to him. Adequate knowledge about such minutiae of this era would require a vast amount of research. And most American records had been destroyed during the Conquest.

However, a few documents still existed, hidden away by the Soviet in closed files. Those mysterious graphs and charts—The exorbitant “service charges”—

That was it. Lindow had purchased research valuable for gambling purposes.

But wait. What good was American money in the Soviet? Mrat-See shook his head. Perhaps, he speculated dubiously, Lindow planned to transship goods from this period to the future—

Several men emerged from the doorway at the rear and conferred with the big man in the chair. Mrat-See noticed them glancing covertly at him, and the ridge of hairs along his spine bristled with apprehension at the hostility written on their faces. He squirmed uneasily. Lindow or no Lindow, it might be wise for him to leave.

Another man came rapidly from the doorway and walked toward the street. Perhaps this human could verify his suspicion regarding the gambling activity and he could then depart with a

clear conscience.

Hastily Mrat-See arose and touched the man lightly on the arm. “Please,” he began politely.

The man frowned at him without interrupting his purposeful pace.

Mrat-See trotted alongside, tugging at his sleeve. “Please,” he repeated, “sell me—it is gambling sat sey do in se back, is it not?”

“Sure,” the man replied absently. “Go back an’ see Big Moe.”

“Sank you—”

The man halted suddenly. “Say,” he said, “you must be the little guy they was talkin’ about—” He caught Mrat-See’s arm firmly. “Hey, Doc,” he called.

The big man from the door, backed by three others only slightly smaller and no less purposeful, advanced toward Mrat-See.

“What’s he doin’, Means?”

The man holding Mrat-See grinned. “Seems sorta curious about what’s doin’ in the back. Thought I better check.”

The big man glowered. “You hadda stick your nose in, didn’t you, Mac?”

“I do not wish to gamble myself,” Mrat-See protested. “I merely wish se information for my report—”

“A report for a Senatorial Committee maybe, huh, Mac? You hear that, boys?”

The boys nodded.

Means had released Mrat-See and now he moved back a bit, watching and smiling in anticipation of the



coming fun.

Doc tossed the butt of his cigar away and came on slowly, his big hands working with obvious relish.

Mrat-See did not understand what they were talking about, but he knew that the time for explanations was past. His hand plunged toward his pocket.

Doc lunged forward. One of the other men cursed and snatched at his armpit.

Mrat-See's finger found the trigger and Doc and his three companions toppled like tenpins.

Means gasped: "He plugged Doc—"

Mrat-See turned and fled.

Confidently Ivan L. Smithov strode across the marble floor of the bank. Politely he addressed the Cerberus of the vault.

"Hiya, babe. How's about lettin' me into Fort Knox, huh?"

Cerberus—familiarily known to her intimates as Miss Price—had not been hailed as "babe" for at least a decade, and the word sent a wicked tingle skittering along her ramrod spine. Primly she preened the iron-gray bun at the nape of her neck, blinking her pale, bespectacled eyes at this extraordinary man.

The face she saw did not appear flirtatious or forward. It was rather squarish and grim, topped by a thatch of sandy hair; pallid but for the trail of carrotty freckles beneath the gray eyes. An undistinguished face, really—ex-

cept for the seriousness of the expression it wore.

Miss Price looked at those gray eyes again, and a different sort of shiver shook her. Those eyes were the cold, unhumorous eyes of a jungle dweller—eyes which had never known laughter, nor guessed at its meaning.

Flustered, she inquired, "Do you have your key, Mr. —"

"Sure, goilie." He produced the flat piece of metal. "Smith's de moniker, babe. Ivan L. Smith."

Mechanically Miss Price performed her accustomed chore. The signature in the book, the time—Back to the vault, use her key in the proper box—Return to her desk—

But unaccountably, the warmth of the day had fled. Those eyes—She scrubbed at her arms, fantastically imagining that the gooseflesh upon them had been glazed by a breath from the wings of death.

In the vault, Smithov removed a sheaf of currency from the box. He stared at it unbelieving, and the thin slash of his mouth spat a curse. Convulsively his hands crushed upon the paper.

Another blunder. Another incredible blunder.

Desperately his mind scrambled in the meager sand of his knowledge of pre-Conquest American history, seeking the bone of truth. Perhaps—Carefully he scrutinized the currency again. The date was certainly old enough, and he thought he remembered some-

thing about some such organization. The details were clouded in his memory, but it might be all right. It might not be the blunder he had thought.

At least he could try. Clutching two of the hundred dollar bills, he advanced to the teller's cage.

"How's about bustin' a coupla C notes fer me, huh, buster?" he inquired graciously.

The teller's slender fingers accepted the bills, stretched them, rejected them.

"Very funny," he remarked coldly.

An iron hand squeezed Smithov's stomach. "What's a matter? Some-thin' ain't kosher 'bout th' dough?"

The teller glanced up and saw the starkness of the anger and the fear in the wide gray eyes. Maybe this wasn't supposed to be a gag. Maybe the man was a psychiatric case—

"The money's no good," he said nervously. "Currency with Jefferson Davis' signature hasn't been any good since Lee's surrender at Appomattox."

Smithov stood unmoving on the marble steps, oblivious alike to the golden flood of July sun and the scurrying swarms of humanity.

Simplification—*Simplification*—  
SIMPLIFICATION—

The word beat at his brain with the monotonous savagery of a primitive drum, relentlessly chasing him back to dim, monstrous memories of childhood.

His grandmother— She was the

only one who had ever loved him—except Maria. They had come for her at night—they always came at night. He was only five then, and he had been asleep. The loud pounding at the door had awakened him to a terror he hadn't understood—until later.

Grandmother had screamed, and he had heard the naked horror in the sound. He had rushed out, sobbing, to help her. Coldly his father had halted his childish rush of succor. Two men sleeved with the dread orange bands were holding grandmother, and she stood there in her shapeless night-dress, slight and small and screaming.

His father was erect, like a soldier on parade, restraining the struggling Ivan with fingers of iron, oblivious of the futile fury of his tiny fists. The Monitors had complimented his father at length on his loyalty to the State, then they had taken grandmother away. Ivan was locked in his room without a word of explanation, to huddle, moaning and shivering on his bed, with grandmother's screams shrilling in his brain.

The next time he saw grandmother, she was simple. Then the screams had been his.

From that moment, he had hated his father with a calculating, ruthless hatred. That hatred was twelve years in fruiting, and its bloom was grandmother's Bible. She had hidden the old black book in a secret place, and he had taken it and put it in his father's room that memorable day

just before he called the Monitors.

That act of revenge had bought him enough additional education to elevate him from a Citizen Third Class to a Citizen Second, and now the coveted First was in sight. Only two more notches to climb—

His marriage to Maria had helped him up the ladder, of course. She was the daughter of a First, a large bovine woman of uncomplicated temperament, and their union had worked out very nicely. She loved him with a blind, undemanding devotion, and for him she was a welcome refuge from the constant conspiracies and counter-conspiracies of daily life. Their sons, Davidov and Hohnovitch, were the apples of their First grandfather's eye. And, Smithov admitted, of his own as well.

And they were barriers. The boys—Maria—His long climb—All his life he had been running breathlessly uphill, building protective barriers behind him as he ran. Barriers against—

Simplification—*Simplification*—SIMPLIFICATION—

Once again those mindless screams resounded from the dark corridor of his childhood, and he shivered. The barriers were crumbling.

Brittski was the saboteur. He was responsible for this ridiculous predicament. He would have a plausible explanation heaping the blame for the expedition's failure on Smithov. And Lindow would back whatever yarn Brittski chose to spin. That Capellan

capitalist would rather lose his hide than a credit's profit. He would be vengeful. Already he had threatened—

And Smithov's superiors would regard the loss of the weather-conditioning machinery with jaundiced eyes. The Soviet was not tolerant of failure, and the penalty was—

Simplification—*Simplification*—SIMPLIFICATION—

His ego locked, gibbering, in an unbreakable cage, beating and bleeding on the unheeding bars, while his body walked and lived on, unfeeling.

The taste of blood was thick and sweet in his mouth. He forced his teeth to release the crushed edge of his lip. There had to be a way out.

Money. Money would bring Brittski's malevolent conspiracy toppling about his ears. Money would make Lindow change his tune. Money would prove his own ingenuity in adversity. Money was the answer. He had to get money.

But how?

One of the Confederate bills fell from his nerveless fingers, a fluttering leaf in the yellow sunlight.

How?

A grinning man touched his arm, extending the fallen bill.

"Better hang on to this," he said. "The way the States Righters are blustering, you never can tell." He chuckled wryly. "Or maybe we'll be using rubles—"

Rubles.

The word rang like a gong in

Smithov's head. Hastily he snatched the bill from the man's hand. Down the marble steps he skipped, and briskly turned toward Sixteenth Street.

More than mildly Smithov was exasperated at the two large Russians confronting him at the Embassy gates. Only minutes remained of the hour allotted him by Lindow in which to secure spendable currency, and he seemed to be making no progress with this obstinate duo.

"Fer de las' time," he shouted, "I tell ya I gotta see de ambassador. It's oigent, a matter o' life an' deat'."

"Perhaps he attempts to create a scene which will provide an excuse for a mob demonstration before the Embassy," the Russian in gray chauffeur's whipcords remarked, dubiously surveying the almost empty street.

"Why does he not admit he is from Chicago?" his companion in the double-breasted blue suit demanded fretfully. "Is he so stupid as to believe we have not witnessed their decadent gangster films?"

"Perhaps it is a capitalist-gangster plot to abduct the ambassador," whipcords added sagely.

"Dolts," Smithov screeched in Russian, "if anyone is abducted, it will be you—to labor and repent in the uranium mines of Silesia. When the ambassador learns of your stupid Fascist obstructionist tactics, he will see to that."

"This Chicago gangster speaks Rus-

sian," blue suit exclaimed in amazement.

"Perhaps we should inform our superiors of his presence," whipcords whispered hastily.

Quick to press this slight advantage, Smithov scribbled two names on a slip of paper: Vassilly Tonetsky—Victor Turner. Imperiously he thrust the note toward blue suit.

"Take this to your ambassador at once," he commanded.

Reluctantly the Russian shambled away.

The message was magic. In less than five minutes Smithov was ushered into the presence of a well-dressed, youngish man.

"You's de ambassador, ain't you?" he asked eagerly. "You de big cheese aroun' here?"

The man surveyed him coldly. "I am not the ambassador. My name is Roganin. However, I am authorized to deal with your . . . ah, problem."

Smithov frowned. "I t'ink I oughta see de top dog," he said doubtfully. "I don't know as I oughta spill to no underlin'—"

"I said I was authorized to deal with your problem," Roganin repeated sharply.

"You one o' de big shots in de MVD, Mr. Roganin?" Smithov inquired cautiously.

The Russian's watchful eyes narrowed. "Suppose we get to the reason for your visit, Mr. . . . ah, Smithov. This note—" Suggestively he tapped

the grubby slip of paper.

"Yeah, Well, I'm onna 'spot, see, an' I hadda t'ink o' somethin' to gimme a quick in so's I could con you guys into dolin' me some fas' moola, see? So I t'ink o' Tonetsky—"

"Just a moment." Roganin held up his hand. "I cannot comprehend this gibberish. I was informed that you spoke Russian."

Smithov nodded.

"Then please do so."

Smithov made an effort to control his patience. How ridiculous to staff the Embassy here with dolts who could not understand the language.

"Perhaps it would be best, comrade," he began in labored Russian, "if I outline the predicament in which I find myself. I am a fellow Communist—a Citizen Second class of the Terrestrial Soviet of the year twenty-one twenty-five. I—"

Roganin scowled. "You are claiming to be a visitor from the future?"

"Yes, comrade."

"Hm-m-m. You have proof of this remarkable statement?"

"Not direct proof, no. You will understand why this must be so, of course, comrade. For obvious reasons, the people of this era must not know that they are being visited by those from the future. Consider the consequences—technological obsolescence, economic displacement, historical foreknowledge and its resulting despair, shifts of a possibly disastrous nature

in the probability sequential line—Therefore I bring no wondrous machines with me—nothing which could not be the homemade product of this age."

Smithov leaned forward earnestly. "Suppose you, Comrade Roganin, wished to visit the Rome of Caesar's day and pass among the populace as a Roman. Would you wear modern garb or arm yourself with modern weapons? No, obviously you would equip yourself with toga and short sword."

Roganin smiled. "And yet you reveal your identity to me."

"Only because of the most urgent necessity, comrade."

"Hm-m-m. I can imagine the nature of this necessity," the Russian muttered softly. "Your proof, then," he said aloud, "is of an indirect character?"

Smithov nodded. "With me are three companions from the stars. Barl Lindow, a misguided capitalist entrepreneur from the sixth world of the star Capella, who regrettably owns the machine which brought us here, is human in every respect except for the color of his skin, which is pale blue. Mrat-See Hrasech, from Merow, the second planet of Wolf 359, is intelligent but of an alien species. He is befurred and bewhiskered somewhat after the manner of a cat—obviously nonhuman. Hingolyin, a Vegan, is humanoid but also nonhuman. The presence of these three beings—and their testimony to corroborate my

story—is the only proof I can offer.”

“These creatures are disguised so that they may pass as humans, I presume?”

Smithov nodded.

“And these races from the stars,” Roganin inquired sarcastically, “are they also Communist?”

Smithov shook his head sadly. “No, comrade. Almost without exception they follow the so called free enterprise, democratic system.”

“Your world, then, is an armed camp surrounded by enemies?”

“In one sense, perhaps. You see, there is a Galactic Union composed of races which have attained to . . . ah, a so called techno-sociologically mature level of culture.” Smithov squirmed uncomfortably. It would be blasphemous to say that Terra was considered a barbarous backwater. And it would be difficult to attempt to explain the unreasonable fact that many scientific theories failed to agree with Party dogma, and so must, perforce, be altered to fit—often to a degree which affected their workability.

“We do not as yet belong to this Union,” he stated hurriedly. “We do not as yet possess the secret of the warp drive which permits, in effect, the attainment of speeds faster than light. Our contact with out-system civilizations is accomplished through their ships.”

Roganin frowned. “You cannot reach them, but they can reach you.

Is that what you are trying to say?”

“Even so, comrade. We can visit other systems only in alien ships. And there is the matter of a passport—”

“This Galactic Union has powerful weapons with which it threatens you?”

“The Union has powerful weapons, yes. However, its Interstellar Patrol is used to maintain peace—”

“Naturally,” Roganin said impatiently. “They threaten you through the pretense of maintaining peace. It is the same in the world today. You have doubtless sent agents abroad to learn the secrets of these alien weapons?”

“Naturally. But thus far our efforts have been nonproductive. One such agent was unfortunately captured with certain plans. His memory was snatched and he was returned to us with a warning. Since that incident, we have had great difficulty in obtaining Galactic passports. Even our ambassadors must submit to the humiliation of a psychic search when returning to our system.”

Roganin grimaced. “I should not relish such a state of affairs.”

“No, comrade. Nor do we.”

“In fact, I would find it intolerable.”

“Yes, comrade. We chafe and bide our time—”

Roganin stroked his chin. “You describe yourself as a Second Class citizen of this Soviet of the future. Explain.”

“There are five classes of citizens

in our society. Each class has its duties and its privileges. The lowest class is composed of those who labor manually at unskilled tasks—the cattle. Fourth Class citizens do semiskilled work. No one in either of these classes

may belong to the Party. Third Class citizens may belong to the Party. They are engaged in occupations of technical skill—tool and die makers, accountants, architects, and the like. Seconds are the administrative under-executives. They must be Party members, naturally. Firsts are the hierarchy of the Party—the rulers."

"And how is the class of citizenship determined?"

"By intelligence, ability, and aptitude, of course." Unconsciously Smithov grimaced. "Some reactionaries presume to say that the status of one's parents is being used more and more as a guide. However, avenues remain open for the ambitious."

"Evidently things have not changed too drastically," Roganin remarked thoughtfully. "And now we come to the heart of the matter. This note bearing the names—" ostentatiously he paused to glance at the slip of paper—"Vassilly Tonetsky and Victor Turner."

"Comrade," Smithov said earnestly, "I am in trouble. Naturally I turn to the great Soviet Embassy for help. I cast myself upon your mercy." Dramatically he paused.

Roganin watched impassively.

"My government needs foreign credit. To secure this, it seeks to aid the CapSol Trading Corporation entice out-world time tourists to Terra. The nonhumans I mentioned before are representatives of powerful tourist cartels. The Commissariat of Engrav-



ing blundered in printing the date on these bills"—Smithov placed one of the 1960 twenties before Roganin—"and my assistants made a most regrettable error in stocking our emergency cache with this worthless trash." A handful of Confederate currency followed the twenty.

"In short, comrade, my expedition—our whole time tourist project—is imperiled by a lack of that capitalist commodity—money."

"As I suspected," Roganin muttered softly.

"What was that, comrade?"

"Nothing." The Russian pressed a button on his desk and smiled amiably. "You will join me in a glass of wine while we discuss your financial plight, of course, comrade Smithov?"

"With pleasure." Guiltily Smithov glanced at his watch. "There is, however, the matter of time. I promised the others that I would return within the hour with currency. Already I am late. And, as we depart in the morning, there will be little enough time for them to see the sights of this era."

"Of course. How much money will you require for your needs?"

"I was supplied with five thousand dollars originally. However, a lesser sum should be sufficient. Perhaps two thousand—even one. I do not wish to tax your treasury unduly, comrade."

"A most generous thought."

The irony of the remark was lost upon Smithov.

A waiter entered, served the two

men a pale beverage, and placed a decanter of the stuff on the desk.

"You are acquainted with this . . . ah, Vassily Tonetsky?" Roganin inquired casually.

"I am historically acquainted, as is every schoolboy of my time, with the great work which Vassily Tonetsky has done for you—for us. He is—will be—considered the father of the coming Communist Conquest of '57. You, of course, are familiar with his daring exploit here, comrade."

Roganin smiled. "I would like to hear of Tonetsky from you, comrade. To get the proper historical slant."

"Tonetsky's procurement of the secret American plans for the atomic rocket motor and the drawings of the projected space station was the pivotal point in the present conflict," Smithov said with some condescension. "Naturally Dr. I. M. Konev was credited with the invention of the motor." He shrugged expressively. "But we know, eh, comrade?"

Roganin blinked noncommittally.

"The Americans," Smithov continued, "did not realize that these secrets were in our hands. Consequently they allowed their development to lag while they concentrated on more conventional armaments. As you are aware, their policy in the cold war is changing from one of negativism to a doctrine of positive pressure aimed at fomenting revolution in Mother Russia. And, comrade, they will come perilously close to success."



However, when things seem blackest for us, the space station will be completed. Its guided missiles will blast American cities, they will be at our mercy. It will be like tossing stones down a well."

Smithov gulped his wine, his eyes sparkling with excitement. "I have seen the films of the destruction, comrade. Such devastation. You would not believe it. Magnificent. And just at the moment when internal revolution threatened us. Yes, comrade, we owe much to the brave Vassily Tonetsky."

Smithov stifled a yawn. "And now, comrade, time presses. The money we mentioned—"

Roganin smiled thinly. "You are asking for two thousand dollars. Is that correct?"

There was a subtle change in the Russian's voice which Smithov did not like, but he was having too much trouble keeping his eyes open to analyze accurately. "Whatever . . . you . . . can . . . spare—" His head sagged. "Can't move," he whispered. "Sleepy—" Quietly he toppled to the floor.

Roganin's lip peeled in a snarl. "Clumsy blackmailer," he muttered.

He pressed the bell, and two men entered the room. Gesturing to Smithov's limp body, he said, "Take him to the Virginia estate. And be sure that you are not followed."

Eight long blocks from the pool

hall, Mrat-See slowed his head-long pace. He was sure that his twistings and scurryings through the sidewalk crowds had lost all possible pursuit, but the flight had reduced him to a pitiable state. His garments were thoroughly sweat soaked and dripping, a torrid and intolerable casing. His breath was a wheeze through the itching flesh mask, his muscles were leaden from the high gravity, and the low instep of the human shoes was torture to his feet.

Wearily he stumbled into the shelter of an arcade and leaned against the wall. He had lost Lindow—that was all too obvious. Certainly he had not the slightest intention of going back to the billiard parlor, report or no report.

He would return to the hotel, remove these heathen garments, and brush out his stickly pelt. The thought of the stiff bristles soothing his fur accentuated the unbearable itching. His muzzle twitched sympathetically, and uncontrollably he began to scratch.

He closed his eyes in appreciation.

The sound of tearing cloth made him desist. Ruefully he felt the hole in the side of his shirt. Well, the coat would cover it, and the prickling was no longer such agony.

The display window of the shop beside which he was standing caught his eye. Toys.

It would be nice to take something home for Een-Meh, Sath-San's small sister. Something which he could use

as a bribe, perhaps, when he wished to be alone with Sath-San. For that, he could endure his discomfort the few additional moments necessary to make the purchase.

His gaze wandered over the exhibits. Dolls with pink cheeks and quaint, vegetable fiber clothes; pedal fittings with rollers; shiny guns, deadly with realism; game boards with their painted pieces, magnetic darts, soft plastics for modeling, miniature vehicles, microscopes, chemicals—

Really, these toys seemed quite good. Actually an improvement on the usual Soviet assortment one hundred seventy-two years in the future. But something was missing here—

The Purge Games.

There were no Purge Lists on display, nor any of the usual barbed whips and leather billies. But of course. The Americans of this era did not hold annual purges. Citizens here were not entitled to place the names of their enemies on the Secret List for Purge consideration.

So, obviously, the children would have no Purge Games. The toys of youngsters were always a surprisingly accurate index to the activities of their elders. Playing grownup when they themselves would grow up all too soon.

Mrat-See sighed softly.

But such reflections were of little value in selecting a toy for Een-Meh. A doll, perhaps, would be best. The female young of all species never

seemed to tire of dolls. Luckily, Mrat-See supposed; for should they ever do so, their race would be facing extinction.

That large one on the top shelf with the blond head fur and the blue dress. Een-Meh would like her, he was sure. Mrat-See fingered the change given him by the taxi driver. Fifteen ninety-five for the doll. That would leave him enough for cab fare back to the hotel without having to break another of the counterfeit bills. Too bad he had had to pass one of those twenties, but perhaps it would not be discovered. He did not like to think of the driver losing such a sum. The man was, perhaps, a father—or wished to become one.

His thoughts were interrupted by a low, ominous growl.

Mrat-See turned quickly, wincing at the protest of his aching muscles. The creature standing before him might have issued from a nightmare. Its heavy, barrellike body was slung like a hammock on four bowed legs. The enormous head, with undershot jaw, protruding fangs, and pendulous lips, was turned toward him unswervingly, and the continuing growl was a deep rumble of menace from the massive chest.

Mrat-See's heart leaped with fear. He had seen such creatures before in the Yorkgrad zoo. Dogs they were called. But this one was loose on the streets, not safely encaged by sturdy

bars. Obviously the thing had escaped its customary confinement and was abroad to wreak revenge on its captors.

Stealthily the Merovian's hand crept toward the pocket which held the stun gun. He knew the creature confronting him could move with lightning speed, and he did not want to precipitate its present threatening attitude into action by a sudden gesture.

The dog's nose twitched. Its upper lip rose to expose viciously gleaming tusks, and the basso of its growl ascended alarmingly. Slowly it advanced, crouching as though to savor the pleasure of its announced attack.

Desperately Mrat-See fumbled at his sticky garment. His muscles ached and shook with disobedience, and terror was a solvent in his bones. Shrilly he snarled in chaotic protest, and the dog sprang for his throat.

His numbed fingers found the trigger, pressed it — and a thunderbolt struck his chest. He collapsed on the pavement with Sath-San's beloved name a prayer on his lips, helplessly awaiting the sharp teeth of death.

The dead weight upon him lay limp and unmoving.

Cautiously Mrat-See opened his eyes. He rolled gently. The unconscious dog toppled from him.

Hissing a sigh of thanksgiving, Mrat-See tottered to his feet and ran. Disjointed thoughts jerked through his mind in accompaniment with explosive pants from his lungs. The doll—

He should have turned up the gun's power and killed the vicious beast back there. Low charge wouldn't knock it out long. Trace him by scent if it took the notion.

His vision blurred in a red haze, and the weary pound of his feet was a mechanical thing beyond his conscious control. Dimly he sensed the pressure of bodies around him and realized that he was fighting his way through a crowd of humans. He dug forward, desperately thrusting the obtuse creatures aside.

Suddenly the pressure was gone. He stumbled and would have fallen but for a firm hand on his elbow. He felt himself supported and led forward, and dully he tried to comprehend. He was in a small circular space with two men and a machine, enclosed by a sea of pressing humans. One of the humans was holding his arm, and the other was laughing with repulsive heartiness.

"You seem very eager to become a Sidewalk Celebrity, sir," the laughing man said in a sirupy tone. "Step right up here where our audience can see you, please."

The hand on Mrat-See's elbow gave him no chance to do otherwise.

"And what is your name, sir?"

"Mrat-See Hrasech," he answered automatically. He was too tired to think, too tired to run. Perhaps these humans would help him—

"Murat Zhee Hurask—" The man paused and chuckled. "You *don't* say."

The crowd roared.

"Please," Mrat-See said desperately, "I—"

"And where are you from, Mr. Hur . . . uh . . . I think I'll call you Harry. You don't object, do you, sir?" The man appealed to the crowd. "How about that, folks? Wanta call him Harry?"

There were a few cheers and several loud boos from the folks.

Vaguely Mrat-See wondered why this human didn't wish to call him Mac as the others had done.

"Where is your home, Harry? Where were you born?"

"Merow. Wolf II." Mrat-See pronounced the words so that they sounded, "Wrulff suh-yew."

"Thank you, Harry, and a merry himff to you, too."

More laughter.

"Now will you tell us where you were born, please? You're a foreigner, I take it?"

Mrat-See's battered mind struggled to grasp the situation. These senseless questions—And the machine—It must be a broadcasting device of some kind, perhaps a primitive radio. He must warn these humans of the terror stalking their streets—

"A beast has escaped from your zoo," he said urgently. "It is abroad in your cisy at sis moment—"

The emcee frowned, then nodded quickly to the man holding Mrat-See's elbow. "We'll take care of it," he said

soothingly. "And thanks for being one of our Sidewalk Celebrities for the day, Harry."

Mrat-See felt himself being drawn away. Stubbornly he resisted.

"Sis beast assacked me," he shouted. "It assacked me but a short sime since—" He clutched the emcee's sleeve and clung. "A great bruse of a dog has freed himself from your zoo—"

The emcee winked at the machine. "O.K., Harry. We'll all be on the lookout for the dog who escaped from the zoo."

The crowd tittered.

"I think," the emcee continued, his nose crinkling distastefully, "that a fertilizer truck just passed here, folks. And now our next Celebrity—"

Mrat-See caught a glimpse of tawny, purposeful motion in the crowd of humans. Terrified, he began to yowl and jabber in the consonants of his native tongue, shaking the emcee and pointing.

The dog staggered into the cleared circle, still groggy from the stun charge, but grimly pursuing the scent of its quarry. Drunkenly it crouched, snarling it sprang.

Mrat-See knew a moment of withering horror as the great beast rose, bowling upon him. There was no time for the gun. Desperately he struck, feeling the unsheathed razors of his claws dig into flesh. The hot breath of the creature blew upon his face, savage tusks tugged briefly—and were gone.

Bright with blood, the dog struck the ground and lay still.

Mrat-see turned away, shaken and trembling. The emcee was staring at him, his mouth working wordlessly. Shrill squeals started from the inner circle of the crowd, rapidly spreading outward, growing into the senseless animal sounds of a mob in panic.

Mrat-See realized that something was wrong. Very wrong. The dog—

Slowly his hand rose to his face. Familiar whiskers and muzzle met his fingers. The lower part of the flesh mask was gone.

Poor guy, Crain thought, blinking morosely at the TV screen and savoring the dregs of his rye.

A beer down the bar breathed, "Ja see that thing?"

"We return you to our studios," the TV set announced hastily. The chaotic street scene vanished.

"What was it?" a scotch inquired.

"It wasn't no man. So help me, that thing wasn't human."

The bartender hadn't been watching the screen. He didn't like video. "Maybe it was a Marshun," he suggested sarcastically.

"Could be," the scotch said soberly. "Could be at that."

"Ja see it run? An' the crowd fall down when it put its hand in its pocket? Ja see that?"

"Ray guns, yet," the bartender snorted.

"I tell ya it wasn't human."

"I sheen plenny worse'n him," Crain said solemnly. "Inna war. Own muvver wouldn' know shome of 'em." He shook his head. "Bad they was. Real bad."

The beer hmphed. "You're nuts. Wasn't nothin' like that thing in no war."

"You tryin' to tell me I don't know wounded vet'ran when I shee one?" Crain demanded belligerently.

The beer hooted. "If that thing was a wounded vet, I'm a Martian myself."

Crain burped disdainfully. "That fer Marshuns. Wounded vet, I shay. Gimme 'nother rye, bartender."

The beer turned his back on Crain and addressed the scotch. "Ja see what it done to that dog? Like it hit 'im with claws."

The scotch nodded. "I think you're right," he said slowly. "I don't think it was human—" He shivered and pulled at his drink.

The bartender deposited Crain's rye. "Wha'd it look like if it wasn' human?"

"Long whiskers," the beer said quickly. "An' a muzzle with fur. Sorta like a cat."

The bartender quirked his eyebrow. "Sometimes the set don't work so good. Lotta interference."

The beer made a rude noise. "I seen interference before, but I never seen nothin' like that. Interference don't grow no whiskers an' muzzles on guys' faces."

"It had to be human," the scotch said loudly. "It had to be, didn't it?"

"Coursh," Crain agreed. "Jush wounded vet. Sheen shome own muvver wouldn'—"

The bartender scowled fiercely at something behind Crain, following its movement with his eyes. "Jerks think this place is a public washroom," he muttered. "Holdin' up a handkerchief like he's got nosebleed, yet. Probab'ly mess the place up an' don't even buy a beer. If he tries to walk outa here, I'm gonna tell 'im off."

Carefully Crain turned on his stool. "Shay," he said loudly, "thash—" He stopped abruptly and smiled slyly at the bartender.

"Wha's eatin' you?" the bartender growled.

Crain put his hand on the beer's shoulder and clambered from his stool. "Wounded vet, I shay," he announced with satisfaction. Smiling smugly, he headed for the door marked "Men," being careful to keep his steps short and his eyes fixed on his destination.

"Tight as a tick," the beer remarked.

"Show 'em whosh tight," Crain muttered, fumbling at the door. "Tol' 'em wounded vet—"

Inside the washroom, a man was sloshing water with one hand and holding a handkerchief to his face with the other. He wore dark glasses and a stained and rumpled suit.

"Thought sho," Crain remarked triumphantly. He walked toward the

man unsteadily.

The man wheeled, still holding the handkerchief to his face, and his hand dropped to his side pocket.

"M'namesh Crain," Crain announced in a straightforward friendly manner. "Rob Crain."

He extended his hand. Somehow he misjudged the distance, staggered, and brought up against the wall.

The other regarded him anxiously. "Please," he said, "I do not feel well—"

Crain leaned on the wall and nodded with solemn sympathy. "Don' have t'tell me, ol' boy. 'M a vet'ran m'shelf. Know jush how ya feel. Shaw whole thing on TV." He grimaced indignantly. "Shame, thash what ish. Man givesh hish flesh an' blood for his country, comesh home—What hap-pensh? Getsh laughed at on TV, dog bitesh 'im, people call 'im Marshun—" He frowned lugubriously. "Countrysh goin' t'th' dogsh. No reshpect."

He lurched to an adjacent sink and clung to its edge. "Well, Crain's shtill got reshpect. Wanna help ya, ol' boy. Always ready t'help anuvver vet. Gonna buy ya drink."

He slapped his thigh for emphasis and lost his balance. Cautiously he resumed his stance against the wall.

"Bartender gripin' 'bout guysh usin' hish loushy washroom. No reshpect. Gonna buy you drink m'shelf. Show 'em whosh drunk—"

Crain's eyes wandered to the other

sink and he made an effort to focus on the rubbery looking thing immersed in the water. The thing seemed to be getting bigger. And it was growing hair—

Crain rubbed his eyes and looked again. The hair was still there, and it was attached to a face. "Maybe I am drunk," he muttered. The face was beginning to fill out, puffing with nose and cheeks—

"Shay, friend," Crain said carefully, "do you shee what I shee down in that water?"

"Sst? Oh—It is a mask."

"Sho thash what dog bit, hey? Mash. You alwaysh carry a shpare, ol' boy?"

"When I am required to visit primisive—Yes—Yes, I have se spare, sank you."

"Pretty shlick. Never get caught with ya mashk down, huh?" Crain chuckled admiringly. He watched the the swelling mask with fascination. "Never shaw one grow itsh own face before. Ya get 'em from th' Vet'ran's Adminishtration, huh?"

"Ah . . . yes."

The other lifted the mask and gently squeezed off the excess water. This necessitated lowering the handkerchief, and Crain got a good look at his features.

"Shay," he muttered, shuddering, "I don' blame ya for wearin' that thing."

He watched, mesmerized, as the man stripped the remains of the torn

mask from his head. This guy had really got it bad—wound must have practically torn his head off. Even the eyes and ears were awful—And all that hair. Some shavetail doc probably experimented on the poor bird.

"Shay," Crain remarked helpfully, "ya oughta try plashtic soo . . . soogery. Do wunners, ol' man. Own muvver wouldn' know ya."

The other hissed, pulled the new mask over his head, and donned the dark glasses.

"Gotta 'mit ya look better with mashk, ol' boy. Makes big difference. But shtill shay plashtic soogery—"

Crain paused. The man was looking at him peculiarly, and his hand was in his pocket again. "Didn' mean any 'fensh," Crain said hastily. He placed his finger on his lips. "Shhh. Won' mention it. Word of honor. Gimme Bible—shwear on Bible. Won' breathe word—"

The other seemed to relax a bit.

"Buy ya drink. Can' find Bible, sho buy ya drink on it, huh?"

"Sank you, but I cannot—"

"Wish guysh at bar shaid you wash Marshun." Crain giggled. "Get it, ol' boy? Shaid you wasn' human. Buy you drink, we'll show 'em." Chummily he put his arm around the fellow's shoulders, urging him toward the door.

The man held back. "No," he snarled. "Please les me go—"

"Firsht time ever shaw vet didn' wanna lemme buy 'im drink," Crain



remarked in awe. "Shay"—he sniffed suspiciously—"shomethin' stinksh in here."

"Please, you go ahead. I wait here a moment to permit se mask to dry."

Crain blinked owlishly. "Well—" The smell seemed to be getting stronger. "O.K., then. But don' forget—gonna buy ya drink when mashk driesh. We'll show 'em whosh drunk vet."

"Yes, yes. I come in just a moment."

Crain waved vaguely, zigzagged to the bar, and remounted his stool. The scotch was staring straight ahead, whispering to himself. The beer was tracing moody circles with his mug.

"Two ryesh, bartender," Crain

called loudly.

The bartender regarded him dubiously. "One at a time ain't enough, huh?"

"One f'me, one f'my friend," Crain stated with dignity.

"Yeah? Where's your friend, Mac?"

"Inside."

"The guy with nosebleed?"

"He'sh wounded vet," Crain asserted smugly.

The beer moaned. "You still on that routine?"

"Shaïd alla time he wash wounded vet, didn' I?" Crain answered his own question with a judicious nod. "Wounded vet then, wounded vet shstill. Alwaysh ready t'buy drink for



every wounded vet I meet."

The beer squinted at Crain suspiciously.

"No," the scotch said softly. "Not the thing on TV?"

Crain nodded with assurance. "Shame one."

"Not back there— Not in here—"

"Gonna buy 'im drink," Crain insisted.

The scotch slid from his stool and sidled toward the door.

A red-faced cop came in from the street. "Any o' you birds seen anything o' some sorta animal wearin' clothes?" he demanded belligerently. "An' I'll run in the first one who cracks wise, see?"

The bartender strode around the end of the bar gripping the neck of a bottle. "Back here," he said, jerking his head toward the washroom.

The cop drew his gun.

"This Smithov—he is downstairs, eh?" the shark-faced man demanded.

"Yes, comrade Menkalik." Roganin bobbed his head ingratiatingly. "The dangerous knowledge he possessed made it impossible to release him, and of course he could not be kept at the Embassy. However, I felt sure you would be most anxious to question him, and this estate seemed—"

"He claims to come from the future, does he?"

"From the year 2125. He says that a Communist Conquest will come about in 1957, primarily through

Tonetsky's work—"

"That is most interesting," Menkalik interrupted thoughtfully.

"Yes, comrade. And that he is a citizen of a Terrestrial Soviet. However, the corroborating details of his story are utterly fantastic. Men from the stars . . . why, he even claimed that three such creatures accompanied him."

"You have checked this assertion, of course?" Menkalik asked softly.

"Why, no. It scarcely seemed worthwhile—"

"I suppose you did not witness a video program called Sidewalk Celebrities today either, did you, Roganin?"

"I do not waste time watching the propagandistic soap operas of the capitalist warmongers, comrade," Roganin replied reproachfully.

"You might have found it worthwhile had you done so this time." Menkalik moved briskly toward a table on which reposed a pile of clothing and personal effects. "These belong to Smithov?"

"Yes, comrade. The clothes are ordinary in every way except for the absence of all labels. As you can see, the contents of the pockets were meager—a handkerchief, a small pocketknife, five hundred dollars in the 1960 twenties, one thousand dollars in Confederate bills, and the cheap wrist watch."

Menkalik opened the blade of the knife and scraped at the date on one of the twenties. "Why did he not

obliterate the date in this simple manner?" he mused softly. "The money seems otherwise a perfect reproduction—"

Roganin smiled. "Surely the false currency is but a clumsy prop to support his pathetic attempt at blackmail."

"Why should a mere blackmailer bother to counterfeit currency?" Menkalik demanded harshly. "Would he not rather place his evidence where it would insure his own survival? And these bills—they are a faultless reproduction except for the stupidity of the date. He could make a fortune manufacturing them. Why should he risk blackmail for a paltry two thousand dollars?"

Roganin struck his forehead with his palm. "A capitalist trick," he groaned. "They are trying to trap us into revealing Tonetsky's whereabouts just as they beguiled us into a premature attack in Korea. This Smithov is an agent of the F.B.I.—"

Menkalik frowned. "It is possible," he said slowly. "However, there is the picture—"

"The picture, comrade?"

Menkalik took a folded newspaper from his pocket and handed it to the other. "There."

Roganin found himself staring at a creature surrounded by a fleeing mob. The upper half of the creature's face seemed human, but the lower half was definitely not. A jagged line separated the two halves.

"The story beneath the picture," Roganin muttered, "mentions the possibility that this is the same wounded veteran who was later seen in the washroom of a bar fitting himself with a new face mask."

"Pah," Menkalik exploded. "A fairy tale. No wound could create such a face."

"Then what—?"

"One of these beings from the stars, perhaps," Menkalik hissed. "And there is also something else there in that picture . . . something whose smell I do not like. Have this Smithov brought up here, Roganin. At once."

The dreaded caps of red, white, and blue were gaudy crests of shame on the heads of Davidov and Johnovitch. Smithov watched his sons slink down the alley, their movement wary with the caution of hunted things. The chill breeze fluttered their ragged clothing, and their bare feet dodged the occasional patches of dirty snow.

At the mouth of the alley the two boys halted in indecision. Smithov saw that Johnovitch was shaking his head and crying. Davidov argued with him briefly, then took the younger boy's hand and led him toward the corner. Pressing Johnovitch behind him, Davidov thrust his head around the protecting wall and carefully peered up and down.

Smithov saw a group of children stalking along the broad street. They were plump and well fed. Their hands

grasped leather clubs and barbed whips, and the raw, shocking cruelty of childhood was bright in their eyes. A hunting party.

Smithov knew that Davidov did not see the hunting party. Desperately he tried to shout a warning to his son, but no sound came from his lips. In an agony of apprehension he watched.

The two boys slipped from the shelter of the alley. The leader of the hunting party, a stocky, arrogant looking boy of twelve, spied their caps. His shrill shout brought white terror to Johnovitch's face. Quickly Davidov pushed him back into the alley and they turned and ran.

Johnovitch was sobbing now, stumbling blindly as his six-year-old legs failed to keep pace with the longer strides of his brother. Davidov paused to look back, and the hunters burst upon them.

The twelve-year-old leader had the group well disciplined. They did not strike the boys prematurely, but herded them into a small circle, taunting them with shrill jibes.

"Old man got simplified, old man got simplified—"

"Simplified, yah yah, simplified, yah yah—"

"Zombie kids, zombie caps; zombie kids, zombie caps—"

"Old lady's in the Public House, old lady's in the Public House—"

The young leader held up his hand, and the singsong chanting died.

"Who's your old man?" he asked

Davidov. The bright, animal arrogance of his face made Smithov sick. He tried to close his eyes, but could not—

"I-Ivan L. S-Smithov, c-comrade," Davidov whimpered.

The leader swung his billy almost casually. A glowing streak rouged Davidov's cheek.

"Don't you call me comrade, you dirty zombie."

Dumbly Davidov backed against the wall.

"What happened to your od man, you?" He nudged the blubbing Johnovitch with his shoe.

Johnovitch covered his head with his arms and sobbed the louder.

The leader laughed. He grasped the six-year-old's ankle, lifted the half frozen foot, and smacked his billy across the sole.

*Thwack! Thwack! Thwack!*

Johnovitch screamed with mindless pain.

Around the pressing circle faces grew full with sadistic hunger, and tongues lapped at pink lips.

The leader giggled and turned back to Davidov. "He your brother?"

A trembling nod.

"Tell him why you're wearing those zombie caps. Tell him what happened to your old man."

"H-he was s-simplified."

The twelve-year-old nodded smugly. "O.K., gang," he said.

The hunting party pressed forward with a gleeful whoop. For a moment

Davidov stood against the wall, fists clenched with helpless fury, the billy mark a bright badge on his cheek. Then the whips and clubs brought him down, and his screams rose and mingled with the cries of his brother.

Smithov wept at the sight of the cruel sport. He loved his sons. They did not deserve this. True, he had surprised a sly look on Davidov's face the last time he had dozed during one of the generalissimo's command telecasts, but he had always been careful not to give the boys reason for hope of reward from betraying him to the Monitors. He remembered his own paternal hatred—

A man with a bright orange band on his sleeve towered in the alley. "A hunting party, I see," he remarked amiably.

The children stopped their play and drew back to look at the man.

"We caught two of 'em," the leader said proudly. "Smithov's brats."

"Good hunting." The Monitor scrutinized the young leader thoughtfully. "You're Peter Brownovitch, aren't you?"

"Yes, comrade Monitor."

"Perhaps you can tell me why zombies are forced to wear the caps of red, white, and blue."

Peter drew himself proudly erect and declaimed loudly, "Red, white, and blue were the colors of the capitalist warmongers of ancient America. They were traitors to humanity.

Zombies—through their parents—are traitors to the State. It is fitting that the two be identified through their colors."

"Very good." The Monitor scowled with sudden ferocity. "How'd you like to make this a real hunt, eh? A real Purge?"

Several of the children stirred uneasily.

Not the stocky twelve-year-old. "Gee," he said eagerly, "could we do that?"

"You can"—solemnly the Monitor drew his gun—"if you want to."

"Sure." Peter grabbed the heavy gun in both hands, staring hungrily at the two whimpering zombies. "Which one?" he asked.

The Monitor shrugged. "Perhaps the bigger one first."

"O.K." Carefully he lifted the gun.

Davidov cowered against the wall. "No," he whined in unbelieving terror. "No—"

The boy pulled the trigger, and the hammer fell with an empty click.

Davidov fainted.

The Monitor laughed.

"Aw, you fooled me," Peter said accusingly.

"A test," the Monitor chuckled jöially. "Your Sovyouth leader will be interested to learn of your zeal, however." He retrieved his gun and strolled away.

The hunting party forgot its quarry in the excitement.

"Gee, Peter, maybe you'll be Patrol

Master now, huh?"

"You'd have really shot that zombie, wouldn't you, huh, Peter?"

"Sure he would. Peter ain't scared—"

The group turned back to the broad street with the strutting leader in its midst.

And Davidov and Johnovitch were left, huddled and whimpering with hurt, to sob their hopeless hearts to the comfortless refuse of the alley.

"No," Smithov screamed, "no . . . I'm not simplified—"

He saw Maria.

She was in their home, struggling with two men who wore the orange bands. The men dragged her from the house, laughing callously at the futility of her struggles.

"No," Smithov screamed. "No—"

The words issued thickly from his lips, and his body twitched convulsively on the hard bunk. He opened his eyes with a final effort, and staggered to his feet. He couldn't let this happen to Maria and the boys . . . The Monitors didn't understand. He wasn't simplified. They couldn't—

Stupidly he stared about him. He was in a small cell of a room. The walls were whitewashed concrete, windowless; the door a steel plate.

Where was he? How did he get into this place? An awful taste filled his mouth, and his thoughts were sodden and mushy.

The wine. Roganin had doped the

wine.

He sank down on the cot and lowered his head to his hands. He had blundered again. The hour Lindow had given him had long since passed. Hour? Perhaps he had lain here drugged for many hours, even days.

He raised his arm to look at his watch. It was gone. And these gray denim garments—His clothes were gone. Everything was gone.

Those dreams—they were all too prophetic. The expedition to the past was a failure, and the failure would be blamed on him. Already he was as good as dead. He shivered. Worse—

He was as good as simple—*simple*—SIMPLE—

Cursing and screaming at the unbearable thought, he launched himself at the steel door. That incredible error in printing the filthy capitalist money. Because of that—because of Brittski—because of Lindow—

SIMPLIFIED!

No! Throw it out, reject it. He wouldn't go back in the chronrac. He'd maroon himself in the past and cheat that dirty intriguer Brittski. Four years yet before the Conquest turned America into a radioactive hell. Plenty of time to get a job, save enough money to take him to the safety of Argentina. He'd show them. There was a way out, a way to avoid—

SIMPLIFI—

When the door finally opened, his hands were raw and bleeding and his voice was a croaking hoarseness.

The guard pushed Smithov into the room. He saw Roganin and sneered even as his gaze passed on to the other man. This one with the dark hair and sharklike face was obviously in charge.

Desperately Smithov leaped forward and clutched at the dark man's lapels.

"Lissen," he croaked, "ya gotta lissen, see. Onna Bible I'll tell ya de whole trut', but I gotta get outa here, see? Ya gotta b'lieve me . . ."

Roughly the guard seized him and jerked him away.

Menkalik produced a handkerchief and scrubbed at the blood on his coat. "Why are his hands bleeding?" he demanded. "Have you tortured him?"

"No, comrade," the guard denied hastily. "He was beating upon the door of his cell as though crazed."

Menkalik smiled at Smithov sympathetically. "Calm yourself," he said gently, "so that we may discuss your difficulties."

Smithov tried to force discipline upon his shuddering mind. This was a chance, a chance—

"What cha t'ink I been tryin' a do wit dat joik, huh?" Indignantly he gestured at Roganin as words flooded from his lips. "I come t'de Embassy like a good l'il Party boy oughta, tryin' a palaver with 'im, tryin' a git help from 'im. I spill stuff to 'im ain't nobody in dis time supposed a know even, tryin' a put de clincher acrost, see? An' what's he do, huh? I ast ya, what's he do? He slips me a mickey."

Menkalik turned to Roganin. "He speaks Russian, does he not?"

"Much better than he does this gibberish."

"Comrade Smithov, you will please confine your remarks to Russian."

Sullenly Smithov nodded. Another dolt who understood no English.

"Now"—Menkalik laced his fingers together and rocked back in his chair—"as I understand the situation, you claim to have come from the twenty-second century with three companions of extraterrestrial origin. The success of your time traveling expedition is threatened because of a lack of present day money, and you have turned to us for help in remedying this lack. Is that correct?"

"Eminently so."

Menkalik smiled suddenly. "I am inclined to believe your story. I think we will be able to furnish you the assistance you require."

Smithov's square face flowed with relief. "You will have my undying gratitude, comrade."

"First, however, there are certain questions—"

Smithov's features resumed their somber cast. "As you say, comrade," he muttered moodily.

"You are familiar with the name, Vassilly Tonetsky?"

"Yes."

"And the name, Victor Turner?"

"They are one and the same man. As I explained to comrade Roganin, every schoolboy of my time knows of

Tonetsky's great work. He is considered the father of the Communist Conquest—"

Menkalik thrust a newspaper at Smithov. "Please examine this photograph and tell me if you are familiar with any of the persons depicted therein."

The caption beneath the picture read: "Mystery Man in Flight. The photo above shows the strange character dubbed 'Harry' by the emcee of a video show as he fled the scene of a sidewalk telecast after being attacked by a dog. The dog ripped the lower half of a rubberlike mask from 'Harry's' face, causing a riot of minor proportions. Authorities are interested in locating the mysterious 'Harry' for questioning. Has anyone seen Harry?"

Smithov cursed. "De doity double crosser," he said, lapsing into English. "After I tol' 'im t'stick in de hotel hideout, he goes an' gits his mug plastered on de front page—"

"Do you recognize that man?" Menkalik asked impatiently.

Smithov remembered his Russian. "Of a certainty. However, he is not a man. He is Mrat-See Hrasech, a non-human Merovian from Wolf II."

"He is one of those who accompanied you?"

"He is."

Menkalik leaned forward keenly. "When this creature fled after losing part of his mask, he placed his hand in his pocket as though grasping a wea-

pon. Those in his immediate path appeared to stagger and fall. Can you explain that?"

Smithov frowned. "A stun gun would cause the effect you describe. All of us were forbidden to bring artifacts which could not be produced by present day technology. However, it is possible that Mrat-See smuggled such a weapon in his luggage."

"This stun gun—it is a paralysis ray of some sort?"

"Yes, in effect. The power of most such weapons can be regulated to produce a nonlethal charge."

"If this companion of yours did bring such a gun with him, can you procure it for us in return for our financial assistance?"

Smithov hesitated. The Galactic Chronological Commission would assuredly frown upon any such transaction. However, this was clearly an emergency—and the chron-jump license was in Lindow's name.

"Most assuredly, comrade," he said.

Menkalik nodded. "By any chance," he asked casually, "do you recognize anyone else in that newspaper photograph?"

Smithov studied the picture again. "No, comrade," he stated firmly.

The Russian's eyes narrowed slightly. "That is all," he said crisply. "You will cleanse yourself and dress in your own garments. The guard will assist you."

Smithov gathered his clothes and

moved toward the door.

"Oh, comrade," Menkalik called, "one more question if you please: This currency you brought with you—why did you not simply scrape off the 1960 date with your penknife?"

Smithov stared at him incredulously. "The penalty for tampering with currency is death, comrade. It would be foolish to take such a risk so long as other possibilities remained."

Menkalik laughed. "Perhaps there is such a penalty where you come from. But that is not the case here in the United States."

Smithov's face was a mask of repressed fury and frustration. "You mean it would have been safe to—"

"Exactly," Menkalik said gently.

Smithov's fervent curses diminished as the door closed.

"Roganin," Menkalik said crisply, "you and Sergei will take this man to his hotel. I will arrange for a preliminary check of his companions by an American detective whose services I have employed before. This detective—whom you may call Green—will contact you in the lobby. To identify yourself, you will light a cigarette immediately after you enter, using three matches to do so. If Green's report satisfies you as to the safety of the affair, you will take Smithov to his rooms. If his companions are as he has described them—and if he can produce this stun gun—you will give him five thousand American dollars for the weapon."





"But surely, comrade, you do not believe this fantastic tale—"

"Let me say that I do not disbelieve it in its entirety. First, there is this Mrat-See. I witnessed his appearance on video. He is definitely non-human. Not a freak, mind you. Nonhuman."

Involuntarily Roganin shivered. "And—?"

"The photograph in the paper," Menkalik continued slowly. "Here"—his finger pointed—"that man in the path of this creature—that is Vassilly Tonetsky."

Roganin caught his breath sharply.

"There is more here than meets the eye, Roganin. Tread as though on eggs."

Thankfully Mrat-See staggered into the hotel suite, panting and disheveled. He closed the door and wearily leaned against it.

"You are back," Hingolyin pronounced pontifically.

The Vegan was ensconced on the sofa swaddled in pink blankets. Scattered about him were bright brochures touting the pleasures of such exotic places as Florida, California, Alberta, and Sonora. In his hand was a brown bottle with a garish yellow label, and on the floor within easy reach an open cardboard carton contained rows of similar bottles.

"You on de defelesion I zaw," the big man remarked slyly. "A most remarkable berformance."

Mrat-See hissed deprecatingly. He shucked his sodden garments, found his brush and cleansing mitten, and devoted his attention to his pelt. A booming purr of contentment began to well from his chest.

Hingolyin sipped from the brown bottle and smacked his lips. "A drying experiance you haff had, my poy," he said in a fatherly, condescending tone. He extracted a fresh bottle from the carton and waved it at Mrat-See invitingly. "Here, dry dis. Nerfous disorders to allefiate guarandeed, and your neffs shot must be." He chuckled. "Eager beafer."

Mrat-See accepted the bottle, uncorked it, and sniffed gingerly. The odor was pungent and bitter. His muzzle twitched distastefully.

"What is it?"

"Cadahol," Hingolyin replied complacently.

Mrat-See had learned that much from the yellow label. "Yes, but what does it do?"

"It does eferyt'ing," Hingolyin said simply. "It iss de magic remedy." He beamed upon the Merovian. "Vhen in de game as long as I'haff been, you are, de dricks of de drade you vill learn. How de spas by broxy to cover"—he waved at the gaudy brochures—"how de liddle on-deside gold mines to find. Dese gold mines, somedimes stamps dey vill ve --to buy and a hundred years lader to sell; somedimes goins, or de various dreasures of forgodden handicrafts.

But always de gold mine will be dere."

Dramatically he raised the brown bottle aloft. "Here, de gold-mine iss Cadahol."

"Sst?" Mrat-See commented politely, unconvinced that the bitter brown liquid resembled a gold mine.

"Drink some," Hingolyin said impatiently. "A good gulp for your nerfs."

Mrat-See obeyed somewhat reluctantly. To his palate it was brackish, but its path down his throat was warm; and from the spot in his innards where it settled there issued a soothing, beneficent deliciousness of drowse and well-being. His deep purr rumbled in the room.

Hingolyin smiled. "You see?"

"Sst. Where did you procure sis elixir?"

"Vrom de drugstore. Dey are all of Cadahol full. A gold mine on efery corner. Dat Lindow is a shrewd vun."

Guiltily Mrat-See came alert. He had forgotten his report on the Capellan. "Lindow? He has resumed?"

"He hass nodt returned, no. But always a vay to make money, dey find, dese entrepreneurs." With a flourish Hingolyin whipped a slip of paper from the folds of his blanket. "Read dis, my poy."

Mrat-See did so. It was a newspaper clipping headlined:

**NEGLIGENT SCIENTISTS  
MUST SEARCH  
THEIR CONSCIENCES**

Yorckgrad, May 7, 2125—(SP). Negligent

scientists of the Soviet must search their consciences for allowing the formula for an ancient capitalist nostrum of amazing curative power to remain undiscovered, comrade S. M. Jonesky of the Commissariat of the Interior told a gathering of pharmacologists here today. If such dereliction of duty persists, he emphasized, it might result in drastic revisions in worthy appraisal evaluations by official circles when the names of certain scientists next appear on the Secret Purge List.

In the present age of enlightenment and culture bestowed upon us by our benevolent Government, comrade Jonesky continued, it is nevertheless proper for us to remind ourselves of the fact that all of the knowledge of the past is not yet ours. Many records were destroyed during the fiery purification of the Conquest, both in America and in Mother Russia. In most cases, this lost knowledge has been obsoleted by our striding technological advance.

However, information has recently come to light concerning a medicine of the Twentieth Century possessed of healing properties far beyond the scope of our remedies of today. Strangely enough, this wonderful potion seems to have been discovered by the decadent scientists of capitalist America—doubtless as the result of a fortuitous accident. This lost formula apparently possessed the astounding ability to cure rheumatism, arthritis, muscular aches and pains, nervousness, upset stomach, heartburn, constipation, headaches, chills and fever, vitamin deficiency, and a host of other conditions too numerous to elaborate upon here.

The marvelous properties of this elixir, called Cadahol by the Americans, are profusely attested and subscribed to by numerous testimonials recently unearthed in archaeological diggings.

Comrade Jonesky admonished . . .

Mrat-See decided that the rest of it was unimportant. Thoughtfully he raised the brown bottle to his lips and let a generous potion of lost formula gurgle down his gullet. It *did* seem to

lift some of the weariness from his bones.

Hingolyin plucked the clipping from his fingers and whisked it back beneath the blankets. "Dat Lindow," he remarked in awe. "At one fell swoop hiss fortune he recoups."

The little pool of Cadahol within Mrat-See radiated rays of well-being. "Lindow gave you se clipping?"

Hingolyin coughed. "My stomach," he said deprecatingly, "a zlight ache. Always on alien blanets digestion diffuldies I haff. So for Barzol I vass looking—" His thick lips twisted ingratiatingly. "Among Lindow's t'ings dis clipping I found."

"Zzt." Mrat-See tilted his bottle.

"How did you de beast exgape?"

"Sst?"

"De beast on de delefision."

"I fled to a room of warm running waser and prepared my exsra flesh mask. I was discovered sere by a human suffering from a disease of partial paralysis. When I realized sat se creature did not insend to molest me, I was most sorry for it. It was under se illusion sat I was a human wounded in one of seir wars, and it wished to imbibe wis me because of sat fact. Sere is some local superstition, no doubt, concerning se medicinal benefits of such a ritual. Of course, I realized se fusilisys in any such mummery so far as alleviasing se poor man's condition was concerned, and I did not feel it wise to linger in any

case. When he deparsed, I escaped srough se window."

"You are learning, my poy, you are learning," Hingolyin approved benevolently. "Soon an old hand at de pitfalls of de game you vill be." He uncorked a fresh bottle. "My luffly liddle gold mine," he crooned affectionately.

Mrat-See finished his own bottle and purred in appreciation. There could be no question of the wonderful properties of this elixir. Still, he wondered vaguely, how could it be converted into the fortune Hingolyin had mentioned?

But that was of no matter. Blithely he dismissed the question. It was so nice to lie here and enjoy the new found clarity of his brain—so like one of the beautiful, flawless crystals of the moon of Merow. Thought was so lucid, so rapid, so much ahead of his sluggish muscles. He commanded his hand to rise and scratch his muzzle, and hissed with uncontrollable mirth when it encountered his ear instead.

Dimly he heard Hingolyin chuckling to himself. "Cadahol to de Communists ve vill import," the big man was saying. "Lindow und Hingolyin — Bartners— Medicine men—"

Mrat-See nestled closer to Sath-San, preening her silky pelt and purring his proud love. This was their first night since uniting their vows, and Sath-San was befittingly shy. But the

promise in her shyness was a pounding in his blood, and the silver moon was shining upon them with blessing. The moon was growing brighter and brighter—

Too bright.

Mrat-See blinked protestingly. The moon was gone, and a great white light in the ceiling had taken its place. Grumbling he turned over and closed his eyes, trying to recapture the dream.

A rough human voice penetrated his dozy thoughts.

"Rocky, looka that thing. Like a bear or somethin'."

"Somebody's pet maybe."

"That thing a pet? Nuts."

"Forget it. We got a job to do. Where's that Linder guy got to?"

"So help me, Rocky, that thing's got two heads—anudder one in its lap. A man's head."

What could they be talking about? Mrat-See wondered. What could an animal with two heads be doing here?

Blearily he sat and said, "Sst?"

One of the humans turned hastily toward the door. "I'm gettin' outa here," he screeched.

The other caught him by an arm. "Take it easy, Dippy. This guy Linder's payin' Big Moe real sugar for this job we're goin' to do for 'im, an' Moe ain't gonna like it if we don't deliver."

Dippy cast a fearful glance at Mrat-See. "Rocky, that thing hissed at me—like a tiger or somethin'."

Was it possible that these creatures were referring to him? Mrat-See asked himself. His head seemed to be circling above his shoulders with an independent motion of its own, and his former clarity of thought was hopelessly muddled. In fact, it hurt him to think at all. He placed his hands on his head to hold it still.

Lindow came in. His glance took in Mrat-See, the gently snoring Hingolyin, and the empty bottles on the floor. Grinning, he uncorked one of the bottles from the diminished carton and held it to Mrat-See's lips.

Gratefully the Merovian swallowed, purring his thanks. That was what he needed, the salubrious lost formula. He felt the wonderful, warm detachment begin to return. His thoughts grew crystalline.

Lindow removed his arm from Mrat-See's shoulders. Promptly he toppled to the floor and curled into a happily purring ball.

"Say," Rocky demanded suspiciously, "are these two things drunk?"

Lindow chuckled. "Slightly lubricated. Cadahol's ten per cent alcohol base is too much for their metabolism."

"Whadda ya know. You hear that, Dippy? Them things is loopy off patent medicine." Rocky laughed hoarsely. "Softies, Dippy. Just softies."

"Yeah?" Dippy replied dubiously.

"All right," Lindow said briskly, "let's get on with it."

Mrat-See felt himself lifted. He wanted to protest, but before he could rouse himself to do so the softness of a bed was beneath him. A moment later the harsh light was gone, and it was so nice to let himself sink into the downy, dark clouds.

Soon Sath-San was beside him once more, and her shyness was vanishing.

Smithov watched the acres of government marble flow past the black limousine. Here were the squat hives daily filled by the swarming drones, here the honey filched from the citizens. Here bureaucracy sprawled cozily astride the nation's neck like the Old Man of the Sea. Nostalgia was a wistful breath on his brain. It was almost like home.

He was glad they had come to Washington rather than, say, New York—or Detroit. He had seen films of those two capitalist monstrosities before the blazing bombs of the Conquest had shattered their proud steel and granite, and those pictures had frightened him a bit. How awful it must be to be forced to dwell among the soaring towers of Manhattan or the remorseless assembly lines of the automotive center, to scurry about like an ant lost among millions of other ants. How terrifying to slave seventy-five hours a week for wages when the prices of the commodities purchasable with those wages fluctuated wildly at the merest whim of the Masters of Wall Street, to have

your security and very existence lie at the tender mercies of labor bosses and bankers. How unsettling not to have your job and your life planned for you by the State.

Of course, the Americans *had* been making progress toward security in the years prior to the Conquest. Perhaps, had they not been defeated.

But no.

Had—horrible thought—the Russian Revolution of '57 been successful, Terrans would probably have reverted to their former reactionary ways of individual liberty and free enterprise.

It was rather reassuring to know that the Conquest had succeeded. There was such a morass of insecurity implicit in the very doctrine of freedom of thought—so dizzying and unpredictable. Not at all like Communism.

Communism was rooted and sure, sturdy as a spreading oak. Dependable. And some day that oak would scatter its acorns to the stars. Even here, in the dark ages, it was extending a helping branch to him. Belatedly, perhaps—resentfully Smithov glanced at Roganin's immobile profile—but better late than never.

He felt a fresh surge of chagrin at his own failure to realize the solution to the money problem suggested by Menkalik. So simple to scrape off the offending date—But he had been so sure the bank box would provide. And when it failed to do so, what more

natural than to seek the nearest source of authority for aid and guidance? How was he to know the laws of this barbarous era?

However, things were working out at last. When he got the money from the Russians, he would escort Lindow, Mrat-Sec, and Hingolyin on a night tour of the city. It would be better for the aliens to be abroad at night in any event; there would be less danger of detection. And he could claim that he had planned it that way.

The horrible dreams which had tormented him in the concrete cell were far away and unreal—

Roganin paused in the lobby to go through the business of the three matches. An ordinary appearing man stopped nearby to light a cigar.

"I'm Green," the man said.

Roganin nodded.

"Four of 'em checked in at 10:17 this morning," Green continued in a soft monotone. "Suite—two doubles, sitting room. Barl Lindow, Capella, Alabama, six two, one ninety, blond, halfback type. Henry Golden, Brooklyn, five eight, two eighty—maybe three hundred—blubber boy. Murat C. Harstick, New York, five six, one twenty, talks like a Jap. Ivan Smith, New York—"

"That one is with me," Roganin interrupted.

"All of 'em been out off and on. Haven't had time to find out where. Not much luggage. They're upstairs

now—all except Smith. You got an angle you want me to work?"

"These men, do they seem—" Roganin paused uncertainly.

"Yeah?"

"Do they seem human?" the Russian blurted.

Green snorted. "You think they run a zoo here?"

"That is all," Roganin grated in exasperation. Beckoning imperatively to Sergei and Smithov, he strode toward the elevators.

Smithov burst into the room without knocking, closely followed by the Russians. Lindow and two men were sitting at a table with a deck of cards and a bottle of whisky.

"Barl," Smithov said excitedly, "dese guys with me are gonna angel us, dey're gonna—"

"Hello, Ivan," Lindow drawled. "Did you work out the details of your deal?"

"Sure, everyt'ing's jake, jus' like I said. Dese guys—"

Lindow rose and bent in a courtly bow. "Allow me to introduce myself," he said sonorously. "I am Barl Lindow. Any friend of Ivan's is a friend of mine." His eyes swept the Russians with courteous expectancy.

"Yeah, sure," Smithov said hurriedly. "Dis is Mr. Roganin an' Mr. . . . uh . . . Sergei."

"A pleasure, gentlemen," Lindow intoned.

Sergei's face remained blank and his hand stayed in his coat pocket.

Roganin nodded coldly.

"Mr. Roganin's gonna give us dough, Barl. We—"

"You are forgetting one detail," Roganin said harshly. "The gun—"

"Yeah. Mrat-See musta smuggled in a stun gun, Barl, an' dese guys are gonna buy it off us. Say, where is dat boid anyway? I—"

"You say Murat has a gun?" Lindow frowned and turned to the small man sitting at the table. "Do you have a gun, Murat?"

The small man remained blissfully unaware until he felt a sharp pain in his shin.

"He's talkin' to you, Dippy," his large companion growled.

The small man came awake. "Huh? Do I have a gat? Naw. A sap's good enough fer me."

"He says he has no gun," Lindow interpreted grandly.

"Say," Smithov demanded incredulously, "what kinda runaroun is dis? Day guy ain't Mrat-See. Who are dese boids anyhow?"

Politely Lindow laughed. "You will have your little joke, Ivan."

"Ha ha," the large man boomed. "Ivan's a card, ain't he?"

"Surely," Lindow continued, "you remember Henry Golden and Murat C. Harstick, Ivan. And these gentlemen—Mr. Roganin and Mr. Sergei, I believe? Yes. This is Mr. Golden—and Mr. Harstick."

The large man, introduced as Gol-

den, rose and bowed. "Any frien' o' Ivan's is a frien' o' mine," he said loudly.

The small man nodded. "Likewise."

Roganin frowned. Sergei kept his pocket pointed at Smithov.

"What sorta shenaggins is dis?" Smithov shouted. "I never seen dese guys before. Where's Hingolyin an' Mrat-See?"

Sadly Lindow smiled at Roganin. "Sometimes Ivan forgets. Ivan"—he addressed Smithov as he might a backward child—"you remember coming to the hotel with us this morning, don't you? You remember leaving to see about this deal you said you had with the—" Lindow paused delicately. "Well, I suppose there's really no harm in mentioning the F.B.I. among friends, is there, Ivan?"

Roganin nodded to Sergei significantly.

"I don' know nothin' about no F.B.I.," Ivan denied hotly. "What're ya tryin' a do? Who are dese apes ya got—"

The large man shook his head. "Ivan puts acrost a deal with the guv'ment, then he don't know his old friends," he said lugubriously.

"Yeah," the small man agreed.

"Ya gotta unnerstan, Barl," Smithov pleaded. "Dis ain't no time fer ribbin'. Roganin's gonna gimme alla dough we need—"

"Money, Ivan? You need money? Why didn't you say so?" Lindow produced a bulging wallet and sheafed

out five centuries. "Will this be enough? I can spare more—"

"No," Smithov screamed, "it ain't so. What's goin' on aroun here? Where'd ja git dat dough? I—"

Sergei's gun prodded his ribs.

"He's sore cause I didn' git back oilier wit de dough," Smithov protested. "He t'inks dis is a gag or somethin'—"

"Ain't Ivan a card?" the large man inquired.

"Yeah," the small one agreed. "Don't know his ol' friends now he's woikin' fer the guv'ment."

"Dey're all nuts," Smithov shouted desperately. "Dis boid"—frantically he pointed at Lindow—"has got blue skin. Dat'll prove what I been sayin'. He's wearin' makeup like what dolls use, but unnerneat' he's blue. Rub 'im wit a wet rag—"

"The blue blood of the South may flow in mah veins, suh," Lindow declaimed haughtily, "but I assure you all that it has not affected the color of mah complexion."

"Please pardon our intrusion, gentlemen," Roganin said hastily, grasping Smithov's arm and pulling him toward the door.

"I ain't goin' nowheres wit you guys," Smithov yelled. "You tol' me yerself dat I could scrape de date off an' use—"

Sergei's hand rose and fell. Expertly the Russians caught Smithov between them and pulled him into the corridor.

"So long, Ivan," Lindow called.

Smithov couldn't answer. Dimly he realized that he was being carried into an elevator. His head buzzed and he wanted to lie down, but the two men holding him by the arms wouldn't let him. The elevator stopped, and automatically he staggered forward, half carried by the Russians.

He couldn't think. There was something—

Danger. He didn't want to go with these men. He had to explain to Lindow about the money. He needed help. Call—

Drooling, gasping sounds whispered from his lips. Ahead a black car loomed, with its door gaping for him—

"Help," he screamed. The word was a tocsin tolling in a soundproof room, and only a mumbling fell from his mouth.

The door of the black car slammed behind him, and darkness drew its velvet curtain.

Mrat-see was thoroughly miserable. His head pulsed like a misplaced heart, and the hideously bright glare of Sol beating into the bare Fifteenth Street apartment was torture to his sensitive optics. Sweat from his abused body sopped his abominable human garments, his limbs trembled, and he could not think.

Venomously he glared at Lindow. The Capellan was leaning nonchalantly against the wall reading a newspaper. Why couldn't he have let them sleep a few moments longer instead of



rushing them here before the chrontrac had even arrived? There was no hurry. They would have to wait for Smithov in any event. Vaguely he wondered what had happened to the Communist—

Hingolyin smacked his lips loudly, and Mrat-See shuddered. The Vegan was sitting on a case of Cadahol, blissfully sipping. The collar of his great coat was tightly buttoned about his neck, and its pockets were bulging with brown bottles and bright brochures.

Invitingly the big one extended the bottle in his hand. "Haff some, my poy," he offered happily.

Quickly Mrat-See turned away, stifling a retching surge in his midriff. If the Communists allowed that stuff to be imported to their era, they were more stupid than he had believed them to be. As far as he himself was concerned, the lost formula should stay lost.

Lindow consulted his wrist watch, and as though the action were a signal, the chrontrac appeared in misty outline in the center of the room. Swiftly its shining bulk grew in solidity.

"All aboard," Lindow called briskly.

Smiling contentedly, Hingolyin portered his liquid cargo through the hatch.

Mrat-See clawed at his flesh mask anxiously. "But Smithov," he protested. "Surely we are not going to leave—"

"Ivan?" Lindow smiled quizzically. "Do you know where to find him?"

"No, but—"

"Maybe the bad old capitalist world was too much for him, eh?" The Capellan chuckled ironically. "I don't think we need worry about Ivan. He'll be taken care of."

It *would* be nice to get into the chrontrac, Mrat-See thought, and rid himself of these wretched clothes. Still—

"Se officials of se Soviet will not like sis," he warned gravely.

Lindow laughed. "The chrontrac won't wait. It leaves at 9:10 sharp."

Mrat-See did not like the tone of the Capellan's laughter. There was chill and steel in it, and an inexorable quality of zestfully outre justice. A horrible suspicion struck him. Those graphs—the "service charges"—

"By the way," Lindow said casually, "the bank should be pleased with the results of our trip."

"Se bank?" Mrat-See's throbbing head made concentration difficult.

"Um hmm. And I don't think they'd object if your report were a little vague in spots—about Big Moe, say. They might not like it if something got out about an agent of theirs smuggling a stun gun into a forbidden era."

"Sst—" The Merovian's slight shoulders slumped. Lindow knew.

"And CapSol might be willing to pay a bonus for . . . let us say, discretion." The Capellan grinned sud-

denly. "A bonus large enough for a smart young fellow to post as filial surety."

Mrat-Sec's conscience stirred uneasily. This smacked of bribery. He would not be discharging his duty to the bank if his report did not include—

But wait. What was this about CapSol paying bonuses? He glanced at the Capellan, and his suspicions about the graphs and service charges were verified. The entrepreneur had found a way, and he no longer doubted that CapSol could pay bonuses—fat bonuses.

And what did he really know? Nothing that he could prove. Lindow could place the blame on Smithov's bungling, and there would be only unverified suspicions to contradict him. And could not suspicions unbacked by proof often be misleading? It would be remiss for his report to mislead—

In any event, it was too late to do anything. This way everything would work out nicely for everyone. Everyone, that is, except—

"This particular date—or rather the probability sequential line surrounding our visit—will be sealed off, of course," Lindow said softly.

Yes, Mrat-Sec thought, that would have to be done. Naturally. So there could be no proof—And he could not really help Smithov anyway.

His shoulders straightened. "Zzt," he told the Capellan solemnly.

"Good boy." Lindow clapped his

shoulder approvingly. "All aboard, then."

Mrat-Sec followed the Capellan to the chrontrac, shedding the miserable human garments as he went. His conscience was snugly curled, and his thoughts of home and Sath-San were rosy.

Menkalik thrust the newspaper at Smithov viciously. "Read this," he hissed.

Dully Smithov took the paper. He was back in the whitewashed cell. His head ached abominably, and he knew it was too late for him to reach the Fifteen Street apartment before the chrontrac left. He was marooned.

"I tell you," Roganin whined, "there was no way for me to know. The ones I saw were unquestionably human, not at all like the creatures he described. They had no gun, and when they mentioned the F.B.I.—"

"Fool," Menkalik snarled. "It was those three you saw in the hotel. They did this."

"But I—"

"It is too late now to remedy the disaster which has occurred. But those responsible shall suffer. That I promise."

Roganin shivered.

"And this one"—Menkalik jerked his head toward Smithov—"knows much more than he has told. But I shall get it out of him."

"Perhaps the entire farce was conceived by their F.B.I.—"

"Nonsense. They know no more of this than we. But they now are informed of what we were attempting, and that weakling Farrar will talk. Many of our valuable contacts in high places will be exposed—months, years of work will be lost."

Smithov wondered what they were talking about. The Communists of this era were completely incomprehensible, blowing hot and cold almost in the same breath. Without interest he glanced at the newspaper Menkalik had given him. The item was of local origin.

Two men, Victor Turner and F. X. Farrar, were arrested in a local bar last night for attempting to pass counterfeit currency. Early reports indicated that three other men, also in the bar at the time, are wanted for questioning. Descriptions of these three are as

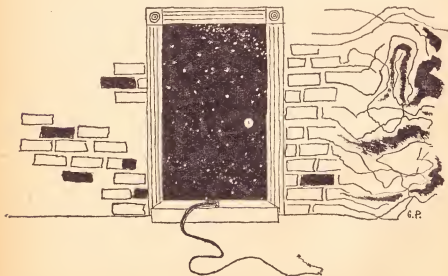
follows: one is tall and athletically built; one short and slight; the other chubby. No further details were available.

"Turner—but dat's Tonetsky," Smithov said stupidly. "He got de plans for de engine an' de space station from Farrar. He wasn' arrested. He *couldn't* be arrested."

"Take my word for it," Menkalik rasped, "Tonetsky was arrested—for attempting to pass some of your 1960 bills. And in his possession at the time were the plans he had just received from Farrar."

"But dat's all wrong. History couldn't be screwed up like dat—"

"What do you know of this, Smithov? You were a part of this conspiracy to trap Tonetsky, weren't you? You will tell me."



"No, I didn'." Smithov paused. "Dis means—" He squeezed his head in his hands. It meant that history as he knew it was no longer valid.

"Dat double-crosser," he shouted. "He wasn' playin' fer no two-bit time tourist trade. He was shootin' for de jackpot."

"Who?"

"Lindow, dat capitalist intriguer." Smithov's brain raced desperately over the facts. Lindow was an entrepreneur, one who took risks for the hope of gain. If Tonetsky did not succeed in stealing the plans, there would be no Communist Conquest. If there were no Conquest, Terra would be a world of free enterprise. And on such a world, in poverty or plenty, in peace or war, an entrepreneur could make a profit.

The hands of the clock touched 9:10, and a wrenching shudder wracked Smithov's body. He felt that he was sliding on a sidewise chute, splitting away from reality. Things began to grow misty about him, but vaguely he could see through the murk ahead. He saw the dead end of his destination, and he opened his mouth to scream.

Roganin and Menkalik heard the scream as a ghostly whisper in the whitewashed cell: "Maria—Davidov—Johnovitch—" The words seemed to be a prayer for a world which once had been and now was not, and with their utterance Smithov vanished.

The Russians glanced at each other in bewildered terror, then turned to flee—toward their own dead end.

THE END

## THE ANALYTICAL LABORATORY

The June 1952 issue contained only four stories, because of the length of three of them; therefore the short Lab report. Before giving the score for June, however, I'd like to ask that some of you, in commenting, help me with some comments on the articles. We get very little comment on articles—except such special features as "Thiotimoline," and by the way, Dr. Asimov recently reported to the MIT Chemical Society some newer advances in thiotimoline research. (I'm trying to get a report on Dr. Asimov's paper.) About the only article comment we get is requests for back issues containing specific articles. I'd like to know what you readers like, and would like. Talking into a recording machine isn't very satisfying, because it listens, but registers no opinions. Your comments on stories are important to me and to the authors; the silence on the articles is as unsatisfying, as empty, as the peculiarly frightening utter silence of an acoustic "dead room." What would you like to hear about? Name the subject; if it's discussable—not under security—I'll make a bet we have, among the present readership of the magazine, someone who is an expert specializing in the subject.

*(Continued on Page 105)*

# NO MOON FOR ME

BY WALTER M. MILLER, JR.

*Some people will do anything to achieve what they want — even go so far as to accidentally reveal the truth they don't know!*

The rocket waited on the ramp at midnight. Floodlights bathed the area in glaring brilliance, while around the outer circle of barbed wire entanglements, guards stood watching the night. A staff car crept through the gate, then purred toward a low tarpapered building where several other vehicles sat idle in the parking area. When the staff car stopped, and a middle-aged colonel climbed out, a loud-speaker croaked from the gable of the building:

*"One hour before Zero. Dr. Gedrin, Colonel Denin, and Major Long, please report to Briefing. One hour before Zero."*

The colonel paused a moment beside his car and nodded to the WAC chauffeur. "Take the heap back,

sergeant. I won't need it again—not for a long time at least. And—take care of yourself."

She glanced at the building shadow of the rocket and made a wry mouth, shaking her head doubtfully.

"Sergeant!"

"Sorry, sir! I was just thinking —" She saw his frown and decided to keep her thoughts to herself. "Well — good luck, sir." She tossed him a last salute and backed away.

The colonel, a gangling man with a bony face and an unmilitary stoop, turned to glance at the cars parked before the Briefing building. There was the general's, and the long black limousine used by the Secretary of Defense. They were men who were going back to their beds this night. He



eyed the rocket briefly, then strode toward the door of the Briefing building. A young major with command pilot's wings was lounging in the entrance.

"Hi, Dennie," he drawled with twisted grin. "Said your prayers?"

Colonel Denin punched his shoulder lightly in awkward greeting. "Yeah. I have got it figured out. We're just leaving it up to you." His voice was a melancholy baritone, edged as always with a slight sourness.

The major shifted restlessly, and his grin was nervous. "Now I know how the Wright Brothers felt. Dennie,

I'm jumpy."

"Why?"

He nodded toward the slender black shaft whose nose aimed skyward. "Me flying that thing is like a Ubangi jumping in a Cadillac and taking off through New York traffic."

"Somebody's got to do *everything* for a first time."

The major studied Denin's dark, Lincolnesque face for a moment. "Aren't you worried?"

"Moderately. But not about your ability to fly it. The controls have been analogized to those of atmospheric rockets. And we've gotten

pilotless rockets to the Moon before. You're just replacing some of the automatics, Jim."

Jim Long thoughtfully lit a cigarette and blew smoke toward the sky.

"One thing bothers me."

"What?"

"You."

A faint smile of amusement twitched about the colonel's thin mouth, and his dark, deep-set eyes gathered wrinkles about their corners. "You think I can't navigate?"

Long snorted. "Don't play games. You know that's not what I mean."

"What, then?"

Long stared at him challengingly. "I think you're up to something, Dannie. I don't know what it is, but I can watch you and see it. The whole world's got its fingers crossed about tonight, and about the Voice. But you're cool as ice. Cocksure. Why?"

Denin shrugged slowly. The faint smile lingered. "Maybe I'm jumpy inside," he offered. "Maybe it just doesn't show."

Long fell silent, eying him clinically. Here was the impassioned man who had spent his life in working against bitter opposition for the launching of the first Lunar rocket. He had been a general during the last war, had helped build and launch the first pilotless rockets which had cleared Earth's gravity and helped end the conflict by the mere threat of transatmospheric attack. But then when the war was over, Congress had displayed no in-

clination to finance a piloted ship. The investment promised no returns. Denin had taken to the stump-circuit, speaking directly to the nation, and bitterly condemning the politicians who were consigning Man permanently to Earth for financial reasons. He had been broken in rank and suspended from the service. Now he was back, and he had won, but only because of the "Voice," blaring out of space unexpectedly, speaking a language to which there was no key.

"Maybe I'm wrong," Long grunted. "Maybe you're just tickled because you've won — if you call it winning."

Denin's smile faded. "Uh-uh, Jim," he said sadly. "*Man's* won. Not me. Space opens tonight."

"You've helped a little," the major grunted dryly. Then he paused, mouth open, thinking. "What you just said: '*Man's* won.' That's what I mean — by cocksure. A lot of people think we're going to lose — going out to meet the Voice. A lot of people don't even think of it as 'opening space.' They think of us as a delegation, waving a white flag to a possible enemy. *What makes you so sure of yourself?*"

The loud-speaker blurted again, cutting into their conversation. "*Fifty minutes before Zero. Denin and Long, report to Briefing. Guards are requested to clear red area of all maintenance personnel. All noncoded personnel are requested to leave immediately. Red area now under secrecy quarantine.*"

*Fifty minutes before Zero."*

"Guess Gedrin's already inside," the colonel grunted. "Let's go."

They flashed their credentials to the inside guard and strode down the corridor toward the lighted Briefing room. The pilot wore a puzzled frown.

"Dennie," he said suddenly, "do you know what's secret aboard the ship?"

The colonel hesitated, then nodded affirmatively. "Yeah, I know."

"That why you're cocksure?"

"Maybe. If I *am*. Maybe not. You'll find out, Jim."

The others were waiting when they entered: Secretary Eserly, thin, gray-ing, and impeccably tailored; General Werli, Commander of the Air Force; and Dr. Gedrin, linguist for the expedition. Eserly came forward to shake hands with the newcomers, then sat at the end of a long table and extracted several papers from his briefcase. He spoke quietly, informally.

"I have here your signed pledges, gentlemen. Would any of you like a rereading of them?" His blue-gray eyes flitted around the table, lingering on Denin, Gedrin, and Long; each in turn murmured negatively.

"Very well, but let me remind you again of what you have signed. You have stated that you have no philosophic or religious objections to deliberate self-destruction if it will secure a world goal. I can tell you

now, this may become necessary. Do any of you wish to modify your pledge in any way?"

Only Gedrin, a chubby, scholarly little man in his fifties murmured surprise. Long glanced sharply at Denin, whose face remained masklike, unconcerned.

"This has been put off until the last minute," Eserly went on, "for obvious security reasons. If the beings behind 'the Voice' became aware that we might be launching a kamikazi attack . . . well . . . it's hard to say what they might do. But even though it is the last minute, I'm prepared to release you from your pledges if you so desire."

Eserly stopped to look around again. Denin was watching the linguist like a hawk. Gedrin moistened his lips, glanced at the others, and said, "I . . . thought it was a formality."

"You wish to be released?" Eserly's voice was cold, but not contemptuous.

Colonel Denin drummed his fingers lightly on the table. It was the only sound in the room. Gedrin looked at the fingers, then met the colonel's eyes for a brief instant. A shudder seemed to pass through him. "No," he said, "no—I'll go along."

Major Long cleared his throat and met the same eyes almost angrily before he spoke to the secretary.

"I want to draw a line, Mr. Secretary."

Eserly shook his head. "We want



no conditional acceptances—”

“I want to know what it’s all about.”

“You *know* all of it, Long. Except about the nuclear explosives in the nose of the ship. You’ve been briefed about finding the invader and trying to parley with him. You’ve been told the government’s policy—an unconditional ‘get off our moon.’ What you haven’t been told: if the answer’s no, you’re to consummate your pledge.” Long looked angry. “I see. We’re to home in on the ‘Voice,’ land in the same crater, if they let us; and Gedrin tries to talk to them. If they’re not co-operative, we blow up the whole kaboodle, including ourselves. Is that it?”

“Not quite, except as a last resort. You’ll use your own judgment. If it’s possible to *leave* the crater, and bomb them from above, you’ll do that. But we have to make peaceful overtures. They might leave freely. If they don’t, well—” He shook his head. “I want a confirmation of your pledge, Long.”

“For a world goal that’s worth while—*yes!*” he snapped.

“Meaning?”

“Meaning *not* for a childish goal!”

Eserly looked shocked. He glanced at the others. General Werli spoke sharply. “Suggest you temper your language, major.”

“Let him speak,” Eserly said. “Go on, Long.”

The pilot plucked at a splinter on

the table and glowered at it. “We’ve been hearing the Voice on ultra-high-frequency bands for years now. You say its trying to contact us. Well, it must be pretty patient, to keep talking that gibberish without an answer. All we know about it is: it’s on the Moon. Telescopes don’t pick it up. We can’t decode the language without a key. Our only answer to it is this rocket.”

“What are you getting at, Long?” Denin asked unexpectedly.

“*You*, colonel,” Long barked.

“What are you talking about, major?” Eserly growled.

“Just this. Dennie fought all his life for this rocket. But the rocket isn’t meant to be an answer to his fight. It’s meant to be an answer to the voice. The world wants to kick an invader off the Moon. Why? Is it because the world wants the Moon as a stepping stone to space? Or is it just a case of: ‘If I don’t want it, you can’t have it either?’ That’s what I mean by a childish goal.”

“Is that all that’s bothering you?”

Long slapped the table and red-dened. “*All!* What do you mean *all!* You want us to sit on a U-bomb and detonate it maybe. What are we doing it for? If it’ll help man get to space, I’m willing. But I’m *not* willing to do it just on principle; not unless the government’s going to use a lunar station after we clear the ground! Yes, that’s *all.*”

He glared defiantly at both the secretary and the general. He glanced

at Denin. The moody colonel had been smiling sardonically throughout the burst of irritation.

But Eserly looked relieved. "Don't let *that* bother you, Long. Stop and think a minute. Some extraterrestrial life form is on our satellite. Where it came from, nobody knows. Very possibly, it's been sitting there watching for a long time. When we hit the Moon with projectiles, it started trying to contact us. Very well, we respond through you. No matter what you do up there—even if you have to destroy yourselves, we know now that there *are* extraterrestrial life forms. And they might come again. We're pretty well forced to establish a Moon garrison."

Long thought about it for a moment and began nodding. "Sorry," he grumbled. "That makes sense. I guess I'm on edge."

"You reaffirm your pledge?"

"Sure, chief."

"That's about the only purpose of this briefing then. You've had all your other instructions. And when you land, you'll be on your own. The decisions you make must come from your own judgment, unless you have a chance to contact us—which I doubt."

Eserly began a brief rehash of the technical instructions. Long was pilot and ship's commander while in space. Gedrin was spokesman, once the invaders were contacted, and as long as negotiations proceeded peacefully,

he was to act as chairman. Colonel Denin was to navigate, serve as ship's engineer, and take charge in the event of hostility. His would be the duty of detonating the kamikazi cargo, if such became necessary or advisable.

"*Thirty minutes before Zero,*" announced the public address system.

"That's all, men," Eserly grunted. "Get your gear and get aboard. Good luck." He glanced toward the doorway. "Chaplain, would you—"

A hoary-headed officer who had just appeared nodded quietly. The crew stared uneasily at the floor. The chaplain crossed himself. "In the name of the Father, and the Son, and the Holy Ghost—"

Soon they were striding across the brightly lighted ramp toward the ladder and the open hatch. Denin, having fought for this moment, was solemn, perhaps bitter, moving with his usual ungainly stride, his dark face waxen and heavy. The short rocket-pilot strutted a little, gnawing on a wad of gum, and waving to spectators beyond the fence. "I'm still nervous!" he confided to the tall colonel.

Gedrin said nothing. He seemed frightened, and drawn into his shell. His plump face was mottled pink from the exertion of carrying his space gear, and he looked as if he wished he had never left the classroom.

"What do *you* think the Voice is, Dennie?" Long called back as he climbed the ladder.

"I'm not guessing."

The pilot chuckled. "Probably a dame with a flat tire, yelling for help."

Gedrin looked startled at the jest. "On the *Moon*?" he muttered thickly.

Long stopped climbing. He looked back at Denin and slowly shook his head. Gedrin obviously wasn't going to be of much use to them.

"Hurry up," Denin snapped.

They climbed slowly, and disappeared into the compartment. A loading officer followed, saw that the hatch was secure from the outside. "Seven on the first shot," he muttered, and paused to chalk a pair of dice on it for luck.

*"Five minutes before Zero. Clear the blast area. Five minutes before Zero."*

Inside the cabin, the three men lay prone on the gravity padding, waiting for the signal. The controls and the navigational equipment were suspended overhead, so that the men could reach them while lying face-up toward the nose of the ship. Gedrin's position was to one side. His eyes were closed and his lips were moving.

"Why do you keep watching him, Dennie?" Long whispered to the colonel.

"He may blow his top. Keep a wrench ready to club him."

Long shook his head. "Six Gs will hold him down."

They waited silently in the dim light from the instrument panels.

"This feels like a circus stunt,"

Long grunted. He tightened his hand, fingers spread wide, and looked at it, watching for a flutter.

"Afraid of being afraid?"

"Yeah, guess so. I could use a drink."

"Who couldn't?"

"Yeah. Well—everybody's invited to my place when we get back. We'll have a few—"

"If we get back," Denin murmured.

"Good-bye, good-bye, good-bye!" shrieked a voice.

"What the—!"

"Gedrin." Colonel Denin nudged the linguist with his toe. "*Gedrin!* Snap out of it!"

"Huh . . . wh-what?" quavered the linguist, opening his eyes.

"You a hysteric?"

Gedrin sputtered a protest and fell silent. His face was righteously angry, as if he failed to realize that he had cried aloud.

*"Two minutes before Zero."*

"Keep your hands in your pockets, Gedrin," Long warned. "You, too, Dennie. Hands off the controls. Black out if you can. We're just riders until we shed the last booster stage."

"You mean you won't be controlling it?" the linguist whimpered.

"Nobody piloted a V-2, did they? After we shed the last stage though, then I can take it."

Breathing became audible in the small hot compartment.

"We don't know what we're do-

ing!" Gedrin gasped. "Nobody's done it before. We don't *know*."

"Shut up, you sniveling coward!" snapped the colonel.

"Take it easy, Dennie!" Long whispered.

"Only way to settle him," Denin murmured without interest. He stretched his long arms, grinned a little, and folded his hands behind his head.

"Cocksure! Why—?"

*"One minute before Zero. Charging pumps, please. One minute before Zero."*

Long's hand started toward the panel, then paused. "I feel small!" he gasped. He slapped the switch angrily. A motor wailed mournfully up to speed.

*"Good-by, good-by!"*

"Stop it!"

"Ten years jockeying rockets. Wonder why I never got married."

*"Forty seconds. Ignition spark please. Forty seconds."*

Long cursed and slapped at the panel again. An angry *chug* rocked the ship, followed by a frying roar.

"No, no, no," whined the linguist. "Stop, please—go back."

"Quiet, you fool! We're not off the ground yet."

Gedrin yelped and slipped off the couch. He started for the crawlway to the hatch. Denin moved like a cat, rolling after him. He caught the linguist's ankle and hauled him back. Gedrin collapsed under a short chop-

ping blow to the temple. "You can't get out, the ladder's down," the colonel explained to the limp body as he dragged it back into place.

"Your hour of triumph," the pilot muttered sarcastically.

"Couldn't help it!" Denin snapped. "He'd have broken his neck."

"You're eager, boy! Too eager for me."

*"Zero time! Main pumps, please! Zero time!"*

The pilot laughed grimly and reached out to do the radio's bidding. "Shall we go, gentlemen?"

The fuel pumps raged, drowning the ship with their din. The growl became an explosive roar of sound, engulfing them. The growling monster pressed them heavily into the padding. Man became sky-borne.

"What day is today?" shouted Long.

"September 9, 1990."

"Should remember it. Historic day." He paused. "All those nines—nine, nine, ninety. Ring of finality, eh?"

"Precedes the millennial number."

"Unless it's like a speedometer. Just goes back to zero."

"Don't worry about the invaders," Denin called. His eyes were closed, his big face calm. Too calm, Long thought suspiciously.

He lay thinking about the voice. The *twitter*, *cheep*, *cheep twitter* that had been coming intermittently from the Moon, interspersed with long



silences and variations in theme. For years the world had listened and shivered, and had grown angry, angry enough to build this ship which might never have otherwise been built. *Hunt them down and find out what they want!*—was the command issued to Denin and Gedrin and Long.

It was impossible to decode the twittering language without some sort of clue or key. There was no Earthly tongue to which it could be related, no starting point for linguists. The government had built a station and had tried to answer. The venture had been useless.

What were the Outsiders doing? Mining? Observing the Earth and its inhabitants? There was no satisfactory answer.

There was a sudden lurch, then a cessation of sound. They became weightless. Muttering excitedly, Long shoved himself out from beneath the panels. "We shed the last combustion stage!" he barked. "Help me with the nuclears!"

Colonel Denin was already pulling his lanky frame out into the cramped standing-room of the small compartment. They walked with their hands,

feeling for new controls, fumbling about in the gravityless ship.

"Hurry before we drop back into air."

"Not much chance," muttered the colonel as he nudged a lever to quarter-scale. A sizzling throb passed through the ship.

Long's head ducked low to peer into a set of eyepieces. "Back it off a little!" he yelled. "Tube's getting red."

"Can't, man! Get your focusing voltage higher."

Long jerked a red knob down, pushing himself toward the ceiling. He clawed his way to the floor again and found the eyepiece.

"How's she look?" Denin called.

"Nice! Tight stream! Red's fading. Give us the juice."

"Keep watching it!" Denin eased the lever slowly forward. The reactors began whispering, purring, then singing a bass note. Weight returned as acceleration mounted. Soon they were standing normally.

"Hold it! Beam's spreading a little!"

"Got to go higher." The colonel pressed relentlessly at the handle. "Still a few air molecules around. They defocus it."

"She's getting red again!"

"When it gets white, let me know. Then you can jump if you want to."

Sweat was leaking from Long's face and tracing black streaks down the rubber eyepiece. Denin watched him

for a moment, then let the reaction-rate stay steady. The acceleration needle sat on 1.5 Gs. The radar altimeter floated past five thousand miles.

"Beam's tightening—tubes cooling off." He lifted his head and wagged it at Denin. "That mean we're safe?"

"Safe from atmospheric defocusing."

Long staggered to the controls and began making adjustments according to the prearranged course. The accelerative-gravity shifted slightly, rocking the floor to an uphill grade, then settled back as before. Denin plotted a check-point, then went to feel Gedrin's pulse. The man was still drowsing and groaning.

"He'll come around in a little while."

Long turned to shake his head and grin relief. "Thank God that's over! Now tell me what happened."

"Our jet's positively charged—helium nuclei. It focuses, like a cathode ray in an oscilloscope tube. If we don't keep it in a tight stream, it can vaporize parts of the ship. A few air molecules defocus it. Something like when you get a gassy tube in your radio."

Long looked puzzled. "I never understood. We squirt out alpha particles for a rocket jet, but what keeps a negative charge from building up on the ship?"

"It leaks off. Pair of electron guns on the hull."

"Another thing—if the alpha

stream doesn't touch the tubes, what does it push on?"

Denin chuckled. "It pushes on the field that focuses it. Just think of the ship as a flying cathode-ray tube with no return lead, and with helium atoms instead of electrons. Of course that's like comparing Niagara to a leaky faucet, but—"

The major shook his head. "Never mind, Dennie. As long as the right thing happens when I shove the right stick—that's all I want." He stared at the colonel for a long moment. "Now that we're out here, why don't you tell me what's on your mind?"

For an instant, the colonel's eyes gazed thoughtfully at the wall. But his mouth tightened, and he shook his head. "Let's have a look behind us," he growled, and began cranking aside the outer steel plate that covered a viewing port.

They stared at it for a long time—a bright crescent, fading through twilight grays into a dark globe.

"Mother of Man," Denin murmured. "We're weaned, Jim."

Long turned to look at the awkward dreamer. What he saw made him go back to his controls. There was too much triumph in Denin's face. Too much triumph for a man who should know that Man's weaning might depend entirely upon the whim of the creatures of the Voice.

"Sorry I slugged you, Geddy," Denin growled suddenly.

Long looked around to see Dr. Gedrin sitting up. The chubby linguist looked bewildered. He listened to the whine of drive for a moment, then rolled back on the padding as if to sleep. The rocket rushed Moonward amid monotonous silence. Long occasionally glanced up at the compartment's ceiling. Somewhere overhead, the suicidal charge was stowed. And Denin's gloominess seemed to indicate that he expected to use them. Gloom and triumph rolled into one.

Long glanced at his watch. "Schedule says three more hours. We living up to it, Dennie?"

"Yeah. We're cutting the drive in a few minutes."

"What do we use for gravity?"

"Centrifugal force. Start her spinning."

"And sit on the walls?"

"Yeah."

"Hm-m-m—I'm going to start listening on the U.H.F."

"For the Voice? Don't bother."

Long stared at the colonel for a long time. "Our instructions say—"

"Don't bother."

"Why?"

Denin looked up with a sigh. "Because I know exactly where to look for it."

"You *what?* *How?*"

"Because I put it there."

There was a long silence. Gedrin stirred on his cot, peered at the colonel, then uncomprehendingly turned his face to the wall. Denin's fist was in

his pocket; and he was armed. So was Long, but he kept his hands relaxed and watched Denin's grim face.

"The pilotless rockets!"

"The pilotless rockets," Denin echoed. "And a transmitter, and some timing devices, and—"

"And the Voice is a wire recorder."

The colonel nodded. His eyes were narrowed and alert, watching the pilot carefully.

"Why did you do it?"

"The Lunar rocket is underway, isn't it, Jim?"

"Not a nice trick to play on Congress and the taxpayers. This bolt bucket cost three billion bucks, if you count all the research that had to be done. You have ceased to be a popular man, Dennie."

"Not at all. I imagine they'll think of us as martyrs. They'll never know, Jim."

Long's eyes darted toward the ceiling.

"That's right. A kamikazi mission. They see the flash on the Moon. We died to get rid of the invaders. And so they build a Lunar station—to prevent any more invasions."

Long started to his feet. A gun appeared in Denin's hand. Long sank back in his seat.

"I hope you'll accept the situation, Jim. But I really don't need a pilot."

"No, I guess you don't. Any kind of landing would do, wouldn't it?"

"Even a crash."

Long thought for a moment. "Why

this twilight-of-the-gods effect, Den?"

"What do you mean?"

"Why not dump the explosives in a bomb run, then head back for Earth? We can keep silent."

Denin hissed his disgust.

"All right, if you don't trust us—we can land at night, just off the African coast, say. Let the rocket sink. Swim ashore. Hit the jungle. They'd think we died in the Lunar explosion."

"Save your breath. And your tricks."

Long turned back to the controls, thinking quickly. Denin had spilled it because he could no longer contain it. That meant doubt, or guilt. He could have waited until the ship landed. It would have been safer for him.

"You think I'm wrong, Jim?"

"I think you're nuts."

"Space is opened. I'm nuts because I tricked the world into space? O.K., maybe. So was the first ape to come down out of his tree."

Gedrin suddenly sat up. The colonel shot him a sharp glance, taking his eyes from the pilot. Desperately, Long struck out for the stabilizers.

The ship lurched. The gun exploded, and a bullet ricocheted from the control panel to imbed itself in the wall. Gedrin screamed. Long wrenched the stabilizers hard, throwing the ship into violent twists. The acceleration jerked him down, then



up against the safety belt. Bodies slammed about the cabin. He kicked the drive to four Gs. Then, sagging in his seat he risked a look backward. Denin lay pinned to the floor by his own weight, and a trickle of blood leaked from a gash in his forehead. Gedrin was sprawled in the corner, one leg twisted unnaturally.

The pilot eased the acceleration back to normal, scooped up Denin's gun, and broke out the first-aid kit. "Cocksure," he grunted as he taped the engineer's wrists and tended the gash. "Too cocksure."

Denin came awake just before the landing. He strained at his bonds for a moment, glared at the pilot, said nothing. Gedrin was resting in a fog of morphine, pawing dumbly at a splinted leg.

"We're coming in on your transmitter," the pilot grunted. He switched the signal into the speaker, and for a moment the cabin was alive with the twitter of the Voice that had tricked the world.

"You going to land?"

"Yeah."

"Why? You mean to spoil it. Why not just turn back?"

"Stop snarling, Den. We're going down to turn it off. And I want to see how you managed to get it down without shattering the transmitter."

"It landed," Denin said tonelessly. "I told you—you just replace some of the automatics."

"How did you get the stuff aboard

without suspicion?"

"The men who made it didn't know what it was for. The men who loaded the crate thought it was an atomic warhead. And I set it up personally. Two men were bribed. They died since. Naturally, I might add."

"Who paid?"

"The government. The men bribed were accountants."

"It must have taken a lot of juggling."

"It did. It was worth it, or *was*."

Denin paused, staring at Long with lusterless eyes. "I hope I get an opportunity to kill you."

"It was your mistake, Den—telling me too soon."

Denin glanced toward the viewing screen, now entirely covered by the white face of the Moon—grim, pocked with the crescent-shadows of craters. His voice grew tremulous. "Man's destiny should lie in space. He may never come again. You're consigning him to Earth."

"Why? I don't see that."

"The cost, you fool! What reason has he to go? Not for economic returns. That's been established. Unless he has another reason, he'll stay Earthbound. I tried to *give* him a reason."

"A phony one. Uh-uh, Dennie—you don't trick people into their destiny."

"Why not? Ethics?" Denin's voice was acid.

Why not indeed, Long thought?

Ninety-nine per cent of humanity would always remain Earthbound, and would derive no profit from space. Yet, that ninety-nine per cent would have to foot the bill. The price of getting a few ships into space—and some day to the stars—the price was sacrifice. Sacrifice of the many for the few. And the many wouldn't like it—as they had undoubtedly disliked building pyramids, and temples, and Towers of Babel for the amusement of kings.

"Yeah, ethics," he murmured.

Landing in the faint gravity was an easy job. The strength of the "Voice's" signal was blocking the set as Long let the ship slip down on the auxiliary combustion-rockets. The transmitter was not in a crater, but on a wide, sun-parched and airless plain. The settling rockets fanned out huge clouds of white dust as they stung the surface. The dust fell rapidly, unsupported by any atmosphere.

Long stood up and reached for a pressure helmet. They had worn the heavy fabric suits while in flight. He started the air-compressors and gathered up a length of hose, then paused to glance down at the colonel, "You can come, Dennie—if you want to. I'll untie your feet."

Denin shook his head glumly.

Long shrugged. "O.K.—but I'm making sure you stay away from the detonator." He dragged the bound man to the bulkhead and taped his

feet to a brace. Then he opened the port covers, letting the angry sunlight sweep through the compartment. The pilotless missile lay on its side, fifty yards from the ship. It's hull was cracked, but sweepmarks in the Lunar dust spoke of a successful landing.

The pilot was gone a long time. Through the port, Denin watched him bounding about the missile in long slow leaps. The colonel strained at his bonds, and tried to saw them on the sharp edge of the brace. Gedrin was moaning on his cot.

"Gedrin!"

There was no answer. The colonel called again in an angry bellow. Gedrin stirred and looked up. "Where are we?" he groaned.

"Luna! Now listen to me if you want to live!"

The linguist whimpered in fright.

"Long's outside," Denin went on. "You hear that motor running?"

Gedrin's head wobbled dizzily. It might have been a nod.

"Those are the fuel pumps," the colonel lied.

"Huh?"

"Long forgot. Left them on. The tubes may fire accidentally."

Gedrin was ready to believe anything, but he failed to comprehend. Denin grumbled a curse and tried again.

"Just listen to me," he barked. "Listen! If you want to live, you'll have to get up and cut the switch. The switch. You understand?"

"Switch? Which?"

Denin nodded toward a panel. "The red double-toggle with the safety guard around it. You've got to get up."

Gedrin shook his head as if to clear it. He raised himself up a few inches and stared at the colonel. "You're *lied*."

"Long lost his head! You going to let us die?"

Gedrin wheezed in pain. "My leg. I can't."

"You've *got* to. Roll off the cot. Gravity's faint. You won't get hurt."

The linguist shoved against the wall, and yelped as the light push carried him over the edge. He hit the floor with a light thud. The splint shifted. He screamed, then slumped back.

"*Gedrin!*"

It was useless. The linguist had fainted.

"You'd go to any lengths wouldn't you, Dennie?"

Denin looked up to see the pilot coming through the crawlway. He scowled and said nothing. Long's face was white, and his hands were trembling as he removed his helmet. He seemed to be struggling to control some seething emotion. He moved quickly to the panel, fumbled beneath it for a moment, and jerked a wire loose from the red detonator switch. Then he began cutting Denin's bonds.

The colonel muttered in surprise.

"You're going outside with me," Long told him. "Get the camera equipment. We've got work to do."

"What?" Denin snarled. "Take pictures of the Voice? Evidence for my trial?"

The pilot shook his head and paused to light a cigarette. "They'll probably try you. But I think you'll get off light." He eyed Denin grimly. "Ever hear of ducks on the Moon?"

"What are you talking about?"

"Duck tracks, they look like. All around your rocket. And the dust-marks where another ship landed."

Color drained slowly from the colonel's face. He came to his feet and pressed his face against the glass, peering outside.

"They've gone," Long went on. "Apparently left just after the missile landed. See that black patch over on the hillside?"

Denin didn't answer. He was reeling slightly.

"I think it was a mine shaft," the pilot told him tonelessly.

The man who had tricked humanity into space suddenly slumped. He sat down on the floor and began laughing wildly.

"I — want to go home," whimpered the awakening Gedrin. "No Moon for me!"

Long eyed the linguist coldly. "You've got it, fellow. Like it or not."

THE END



# DEMOTION

BY ROBERT DONALD LOCKE

*If we could just change the past,  
everything would be so much easier  
. . . or would it?*

Illustrated by van Dongen

Report of Temporal Lab, War Research Office, to the Department of Planetary Defense.

Subject: Modification of causal sequence.

1. To alleviate the present crisis, chrono-psych explorers have traced the causal warp back one hundred and fifty years.
2. It is plain the crisis might have been avoided had Mars been opened to colonization in 1985 when the Angloff fleet landed, rather than in 1965 when Lieutenant general Charles Leslie's ship, the *Doolittle*, made its epic

flight. In 1965, Earth was just recovering from World War III. The first colonists undoubtedly infected the Martians with Bismarck's disease — war fever — now stamped out on Earth.

3. We recommend that General Leslie's flight be erased from history.

The Acting Chief of Staff, bronzed Generalissimo Leslie Atwood, stroked his clipped gray mustache, then approved the report by scratching in his signature. He regarded a shelf of history texts and field manuals in his severely furnished office and sighed. Tomorrow, the books would be altered; pages missing, or entire sections gone. Because he was a military man and not a scientist, the aftereffects of time erasure always baffled the *g'ismo*. Still, let the physicists make the explanations—he was interested only in the end result—security for the System.

A timid knock sounded at the paneled door. Atwood's personal secretary, a small dried-up captain with myopic eyes, entered. "General Haiko is here, sir, at your request."

"Show him in."

General Haiko strode in on brisk, hard heels, threw a salute and said, "What can I do for you, sir?"

"At ease, Jan," Atwood directed. "I want you to look this over."

Haiko took the report handed him, read it and whistled.

Atwood said, "You will prepare

and transmit orders immediately, putting into effect the recommendation."

"But, Les," Haiko protested, "it might mean—"

Atwood's features grew flinty. "I know what you're thinking. It's true that General Leslie was my grandfather. By aberrating his life pattern, I run a great risk with my own. However, my mother was already born when her father became the first man to touch Martian soil. The personal danger's not too great. There will be other consequences, of course."

Both men were silent. General Haiko was thinking, yes, there always are consequences. Tomorrow, when they awoke, old friends would be missing; others in their place. Dead persons would live again. New inventions would appear, while old devices lay forgotten. Sometimes, even geographic features showed change.

Responsibility for warping causal sequences in time was so great it had been invested in one man alone, the Acting Chief of Staff. During his tenure, Atwood had permitted its application only five times.

"Don't stand there like a goof," Atwood barked. "Get going, general. This Martian crisis is growing, hour by hour."

The adjutant general reddened: "Very well, sir."

Tubes brightened into life at Temporal Lab. Security signals rang

through the halls, while mercury tanks—like vats of living brain—rippled with coded messages for the machine. Energy from isotope piles flowed into warping coils.

Lieutenant colonel Jerry Parman, a smock over his uniform, stood by with the *erasure* orders, twenty-five sheets of complex math symbols.

A young lieutenant, fresh from West Point and M.I.T.'s five-year postgrad course, probed the past with a chronoscope. As he twisted knobs and analyzed dial readings, his boyish face blanched white.

"Not worried, are you?" Parman inquired, jestingly.

The junior officer managed a weak smile. "I'm sorry, sir. It's just that my wife had an ancestor with Leslie's crew in '65."

Parman slapped the lieutenant's shoulder blades, comfortingly. "Cheer up. We've all got to take the chance. Just don't dwell on it."

Turning away, Parman studied the problem. By modern standards, space-ships in 1965 had been tricky affairs, thin-shelled and rocket-powered. Low-level atomic energy provided the blasts, with heat excess channeled into mercury vapor engines to operate ship equipment.

If, thought Parman, a pebble-sized meteor were to have damaged the instruments, the *Doolittle* would have been forced to turn back. History would have been changed—without repercussions.

Space was beautiful, Charles Leslie admitted as he regarded the void by viewing screen on the *Doolittle*. The alien worlds resembled lush sparkling gems, glowing red to cold icy blue, scattered on a mantle of blackness like none ever seen on Earth.

This was the pinnacle of his military career.

The general recalled his beginning as a youthful cadet from Masillon, Ohio, and how he had survived two World Wars to reach his exalted rank as an air officer of the United Nations. Twenty-one decorations were available to grace his tunic; but of them all, he wore only the blue field and white stars of the Medal of Honor—awarded him in 1943 for his daring solo raid on Berchtesgaden in which his bombs had killed Hitler.

That feat had brought an early end to World II. Peace had reigned until 1960 when the Asiatic Entente had withdrawn from the United Nations, launching the six-months-long World War III and marking the first application of the atomic bomb.

Leslie had emerged from that little scrap a brigadier. Now at fifty-one, he sported three stars on his collar and was as sturdy physically as any of these Academy striplings under his command.

Eventually, the viewing screen bored. The general switched off and strode into the navigation room. "What's our position?"

"Twenty million miles out, sir," a

navigator responded. "There's a slight drift we can't account for. Space may be strained more than we think. I'm preparing a report on it. If you'll pardon my saying so, general, all directions seem screwy out here. The big brass apparently thought space navigation would be as simple as GAC. But, etheric disturbances and tugs which absolutely defy analysis are gumming up the works."

"Well, do the best you can. I know your troubles. I'm a flier, too, remember? Had my own squabbles with the brass in two wars."

The general passed through the room and walked along a catwalk over the pulsing vapor engines. Beyond lay the rocket chambers. He paused for a moment, while his practiced ear drank in the quiet, content purring below. Twenty million miles out, eh? Slightly less than halfway and no gremlins yet. Showed what efficient planning could accomplish. He wondered if Earth's radar was still tracking them. After all, the whole world was focusing its attention on the *Doolittle's* flight. At home, his wife and daughter undoubtedly were glued to all telecasts.

At that moment, a great rumbling blast shook the vessel!

General Leslie was flung to his feet. Negative acceleration gripped the ship and he shuddered to the pit of his stomach. Vapor oozed up from the engine pits. Stumbling, bleeding, the general pitched into the rocket

room and clamped the bulkhead door behind him.

The rocket engineers were in a state of panic. Glancing about, the general's rank asserted itself. He squared his shoulders, thrust out his chin and barked: "All right, you monkeys. Let's get some damage control under way. We've just been plugged by a meteor. You there, captain. Get on that intercom! Try to raise somebody forward. This is an emergency—but it's not a disaster."

Steel nerves pacified the panic. Under Leslie's orders, officers and men scrambled into spacesuits and surveyed the outer damage. A walnut-sized hole was found scorched into the hull. All internal engines were out of order, but the rocket drive still functioned. Completely wrecked were the atmosphere purifiers, which meant personnel would have to go on emergency oxygen.

The damage control officer reported repairs would take at least two weeks, which meant the *Doolittle* would have to turn back, would have to hightail it for Earth in shame.

The general, brokenhearted, found it difficult to conceal his disappointment. He knew the general staff would not attempt another flight until an effective means of combating meteors had been found. By that time, a younger man would lead the expedition.

Destiny had tripped him up, Leslie thought. However, with the grace of

the good soldier, he tightened his lips and ordered the *Doolittle* turned about, leaving part of his soul out there with the glowing stars.

Report of Temporal Lab, War Research Office, to the Department of Planetary Defense.

Subject: The Leslie causal sequence.

1. The Martian crisis remains unaltered.
2. Chrono-psych explorers believe the crisis would not have occurred, had it not been for World War III's sudden termination. Should the war have continued twelve more months, psych warfare advances would have isolated Bismarck's disease. The Angloff Fleet could have inoculated all Martians with peace serum, when it landed on Mars in 1985.
3. Since World War III was ended by the atomic bombing of the Asiatic Entente capital in 1960 by Colonel Charles Leslie—the same Leslie who bombed Berchtesgaden in 1943—we recommend that Colonel Leslie's spectacular feat be erased from history.

Thin, stoop-shouldered Leslie Atwood, civilian Minister of Planetary Defense, read the report a dozen times before he was able to make up his mind. His brain felt blurred this morning. He suspected there had been an erasure some time recently.

Again, he focused on the report.

Chrono-psych activity was still so new to him that he hated to dabble with it. His predecessor as head of the department, Jan Haiko, had not been so squeamish.

But then, Haiko had always been more aggressive. The two men had attended West Point, Atwood a senior when Haiko was a plebe. Each had been retired for physical disability early in their Army careers. But Haiko's business success had skyrocketed him into politics, winning finally the appointment to the Defense Ministry. After his four-year-term, he had surrendered the post to Atwood.

Atwood buzzed his secretary: "Would you tell Mr. Haiko I should like to discuss an important matter with him over lunch?"

"Certainly, sir."

When Jan Haiko arrived, Atwood and he dined together in a luxurious, oak-paneled room reserved for cabinet ministers. Atwood produced the Temporal Lab report. "In a case like this, what would you do, Jan?"

The ex-minister scanned it casually. "Approve it, naturally."

"But Colonel Leslie was my grandfather. He got his B.G. at the end of the war for that bombing. If these chrono-psych explorers mess up things now, I'm liable to find myself nonexistent."

Haiko lit an expensive cigar. "Nonsense. I had recourse to time erasure dozens of times. Nothing ever hap-



pened—of importance. A few politicians' faces changed, that's all."

"But this thing I'm faced with is much bigger. Time erasure should have been left in the hands of the military. I'd far rather the Army could have the blame. Their jobs are permanent. Mine isn't."

"I'm a philosopher, myself," said Haiko. "Who knows what might happen when you erase Leslie's causal sequence. Might find ourselves all immortal. Anyhow, I've always found the boys at the Lab pretty trustworthy. They plot these things with a lot of higher math. Their recommendations have always straightened out affairs before."

"If you think I should, I'll approve it, then," said Atwood.

"Go ahead."

Both men returned to Atwood's office where the minister signed the report and handed it personally to his secretary.

The Temporal Lab workshops seethed with confusion. Physicist Jerry Parman, director, had received orders from higher echelon and was preparing the problem for solution. Two pink-cheeked geniuses from Cal Tech were assisting him. One of them glanced briefly at the orders and his eyes widened.

Parman caught the expression and chuckled: "Looks big, eh? Well, it is a big job. It's no easy matter for us to turn aside a man intent on a mission

of destruction—especially, a tough-hided old officer like this Colonel Leslie. Quite a hero he was, for all his rank. He even tried to fly to Mars later on, but he didn't make it. Anyhow, he cut short two full-scale wars. We'll lengthen one of them for him."

"How?"

"We'll give the old boy a conscience. Make him morally incapable of dropping that bomb."

The tubes flamed into life and shuddery waves of force went screaming down through a century and a half of spacetime continuum.

High in the stratosphere, the mighty *Thunderfort* plowed through clear skies. Below, shaggy tundra stretched in desolation. The twelve powerful jets mounted on the broad swept-back wings stirred up no more noise inside than would have a pair of reciprocating engines of the old days.

Eagles gleaming on epaulets and cap, Colonel Charles Leslie drew the sharp thin air of the pressurized cabin into his chest and sighed happily. It was good to be back in action. The seventeen years of peace since the Axis collapse in 1943 had been surfeit with boredom.

He released the controls to his copilot, a youngish major, and walked through the plane to check bomb and crew again. An expert on nuclear physics was along to trigger the bomb. The colonel skirted the object uneasily as he took the catwalk over the

bomb rack.

The history of that vicious monstrous hunk of black metal was well known to him. Research, begun in 1942, had been choked off with World War II's early end. But the universities, under tremendous financial odds, had carried on the enterprise and finally produced a fissionable element of earth-shaking explosive power. For years afterward the data had been a top-drawer secret in War Department archives.

The colonel returned to the pilots' compartment.

"Navigator to pilot and bombardier," came in a nervous, crackling voice over the intercom.

"Come in, navigator," Leslie said.

"One hundred miles from the target, colonel. Suppose their radar's picked us up, yet?"

"It's entirely possible," Leslie mouthed, wryly. "Over to bombardier, check your toggles. Accuracy's not important with this baby; but those bomb-bay hinges are. Once that hunk of metal is fused, we want to dump it."

The air-speed indicator read 600. Ground speed was somewhat less. But at the most, there was only twelve minutes to go. Colonel Leslie allowed himself a moment to think of the three hundred thousand people who would die, some mercifully and some horribly.

Was it the human thing to do? The war would cease almost immediately

when the extent of destruction was revealed. Soldiers would go home to wives and sweethearts. But, it would still be a crime.

What was he thinking? A new thought wriggled into his brain. *Why, it was a crime!* A blot on all humanity. Those murdered souls would haunt the conscience of the world.

Something urged him to turn back. *Now, Colonel Charles Leslie. The world will cherish your name forever.*

"No!" he cried, aloud. "I can't. I have my orders, my reputation, my record. I can't—"

"What'd you say, sir?" the copilot asked.

The decision was made at that moment. "Turn back!" Leslie barked.

"Beg your pardon, sir?"

"You heard me. We're taking this crate back. Attention, all personnel. We are turning back, heading for internment with the Swiss. There, we'll tell the world our story. We must not carry out this savagery."

"Holy smoke," said the tail gunner. "The old man's got religion."

Leslie grinned, relief expanding his features. He said, "I heard that, sergeant, and you're right, son. Absolutely right."

Communique of Temporal Lab, G-7, Bureau of Defense to the Commanding General.

Subject: The Martian crisis.

1. Open warfare with Mars appears unavoidable.

2. The warp has been traced to the premature end of World War II. Had Hitler survived the Berchtesgaden bombing of 1943, the war would have been fought to a bitter climax. Instead, war lust persisted with the easy peace terms fixed on leaderless Germany. Bismarck's disease then approached pandemic proportions in 1960, as we know. The war of 1960 resulted in an overwhelming desire for peace which has lasted to this day, mostly through the early efforts of that great spiritual leader, Charles Leslie. However, the disease was not stamped out entirely and the Martians have been infected with it.
3. The young officer who killed Hitler was Charles Leslie, the same man who later refused to drop the atomic bomb on the Asiatic Entente. His heroism in both affairs is world renowned. However, for the good of mankind, we suggest that World War II proceed to a violent conclusion.
4. We therefore recommend that the Berchtesgaden bombing be erased.

Jan Haiko, Commanding General of the Bureau of Defense, rubber stamped his approval. After all, time erasure was a rather ordinary routine. Since its discovery, numerous world crises had been avoided and the entire System socially improved.

Besides, what did it matter whether one million or ten million persons

died in that long ago conflict? Only a small per cent of the present day teeming billions would disappear.

No one had been able to chart the full effect of a time erasure. Sometimes, a person's memories remained intact and on other occasions, they were altered. Even in the Temporal Lab, some technicians had lost their knowledge of the flow-control machinery or had disappeared outright. But the percentage was very low. It was a small risk to take in order that all mankind should benefit.

Haiko arose from his desk and stepped into the adjoining office of his executive officer, Lieutenant general Jerry Parman. He placed the report on Parman's desk. "Jerry, you'll get on this right away, won't you? Supposed to clear up this Martian crisis."

Parman read the report and nodded. "Sounds simple to me. This Leslie chap referred to here—probably'll change his whole life, but who cares? He's dead and gone."

"You know," said General Haiko, "I once knew an officer who was Charles Leslie's grandson. Graduated two or three years ahead of me at the Point. Sickly sort of devil. Retired about ten years after graduation and died couple of years later. But that's how it goes."

"This time-erasure might resurrect him," suggested Parman. "Change his genes somehow. Again, it might shuttle you and me off to eternity. I

used to be C.O. of the Lab, you recall. Held the billet for a year, then got a crack at the War College. Probably, if it hadn't been for a time erasure, I'd be cooling my anatomy somewhere as a chicken colonel."

"I don't think so," said Haiko. "You're a good man, Jerry. I'm sure the Bureau of Defense would have recognized your qualities of leadership in any capacity."

"Thank you, general."

The Temporal Lab was housed in a trylon-shaped structure of aluminum adjacent to Staff Headquarters. Guards patrolled entrances and corridors, but the courier bearing new orders from the commanding general was admitted without delay.

The courier presented his message to the director, personally. The director, clad in mufti so his rank could not be distinguished, was a bald man of piercing eyes and deep blue skin, one of the mutants so common now since the recessive genes of atom blast descendants had found recessive mates.

The director smiled at the orders. "This is good news, courier. I'm betting we wipe out atomic warfare, give us 'muties' a chance to have been normal."

The courier, who had no views on the subject, nodded courteously. He was a norm.

The director was occupied for the next several hours, working out the

mathematics of the problem. When completed, he assigned two helpers to chronoscopes to locate young Charles Leslie in the remote year of 1943.

The nearest helper lifted his head shortly. "Ready, sir. We've got him pinned down."

"All X," said the director. His eyes gleamed as he applied switches. There was still hope for a man to become human.

Murky skies shafted by eastern light heralded the approach of dawn in wartime England, but there was only one pilot in attendance at a certain briefing shack. The remainder of those present were high-ranking air force officers. Lieutenant Charles Leslie was receiving his final instructions in connection with "OPERATION BLOWUP."

"British intelligence informs us Hitler has holed himself up in Berchtesgaden for the entire week end. You won't have enough gas to shuttle back, but with luck you should make Switzerland, lieutenant."

The leathery face of the general priming Leslie darkened: "If you are shot down, pray you're not identified. Unless of course, they wing you before the mission's carried off. Your bomber is fast and stripped down. The bomb is the best we have, equivalent of ten block-busters. High altitude precision dropping is out of the question. You'll have to slant bomb, pinpoint your target with instinct and

pull out sharp if it tears your guts out. Zigzag your route to target as marked for you. Oh by the way, our agents on the continent are helping out a bit. They've planted some gadgets that ought to fuzz up jerry's radar a bit. Sorry, that's the only lift we can give you."

"I'm satisfied, sir," Leslie replied. He thought, I'll get the Medal of Honor for this if I should live so long. The young pilot's face was taut and tired beyond his twenty-five years and two winters of combat.

He saluted and rode the jeep down to his plane. He taxied onto the north strip in the darkness and sped down the runway. With engine roar grinding at his eardrums, he pulled back the wheel and felt the earth fall away from him. Soon, he was over the Channel.

Above Dieppe, engine trouble developed. Leslie's manifold pressure dropped. Cursing wryly, he winged back over the choppy sea, jettisoned his load and pancaked in at a field near Ipswich.

When he reached his home base, he learned that his orders had been canceled from Washington only a few minutes after take-off. At the same time, fog had set in over Central Europe, making an attempt to ram the mission through in violation of orders impossible.

The general mumbled consolingly, "Good try anyhow, eh, boy? Might've brought you glory and a visit to the

White House. Still, we can't all have the breaks, eh?"

"No, I guess not, sir."

The lieutenant had never suffered such a letdown in his life.

Report of Chrono-Psych Research Council to the Chief of Staff.

Subject: The Martian crisis.

1. The crisis has passed its peak and is subsiding.
2. Chrono-psych explorers report that the Martian exposure to Bismarck's disease has been eliminated.
3. The System is at peace. No further recommendations.

"Daddy," cried a little piping voice. "Hey, Daddy. Billy's Pop killed a hundred Japs. What'd you do in the War, huh?"

A small boy in blue jeans with short blond hair climbed upon his father's lap. Professor Charles Leslie, holder of a Ph.D. in mathematics, and at thirty-two already world-recognized for his papers on Riemann tensors and Einsteinian spaces, laid aside his pipe and ran his fingers through his son's hair. His brow knitted thoughtfully, as he directed his attention away from the exam he was preparing for the seminar course he conducted at the university.

"Oh, I dumped a few bombs here and there," he reminisced. "I probably killed a few people. But not the way Billy's dad had to. Lucky that way, I guess. In fact, if I'd made

major, I guess I might have stayed in. But I didn't, so I came home, married your mummy, and became a schoolboy for a while."

"But, weren't you a hero, Daddy?"

"No more than a few million others. I guess I could have been a big hero. But fate seemed to want me to be a plodding thinker, instead."

At that moment, Davey's mother left her chair and stood beside her husband, a slim hand caressing her arm. She said, "There are all kinds of heroes, Davey. Some are heroes of war; others, of science or medicine. Or even, mathematics, maybe."

"Gee! Is Daddy going to be a hero of math . . . mathematics?"

"I don't know. He's working on something big. Make him tell you about it."

The boy looked up into Charles Leslie's face. "What's it going to be?"

Leslie grinned, embarrassedly. "I'm afraid it'll be a long time before your mind can grasp this. So, just keep learning away like I tell you—and one day, you'll catch up with your old man. Maybe even pass him, I hope. No, Davey, I'm working on a theory that past time is just as mutable as future time. That means, it can be changed, too. That means, the principle of indeterminacy extends in both directions along the space-time continuum. I think I've got the foundation math just about worked out on it and maybe some big engineering lug some day will be able to convert it to practical use."

"I know they will," Leslie's wife told him.

"Thank you, dear. After all, who knows? Bright boys, juggling time like that, might be able to make heroes out of all us—even a big mug like me!"

THE END

## "CAAAAL FORRR DOLTON EDWARDS"

"Meihem In Ce Klasrum" has earned another check. It's in "The Astounding Science Fiction Anthology" this time and the publisher would like your address so he can keep his records straight.

J. W. C.

## ZERO HOUR MINUS X YEARS...

*Engineering research is quite different in basic purpose and in the methods used; unlike theoretical research, which seeks to find new facts, engineering research seeks to find out whether men's best theories are usable. Because two plus three equals five ordinarily doesn't mean it always does. It may add, instead, to "six — if you're working on a logarithmic scale, and all too frequently the engineer is!*

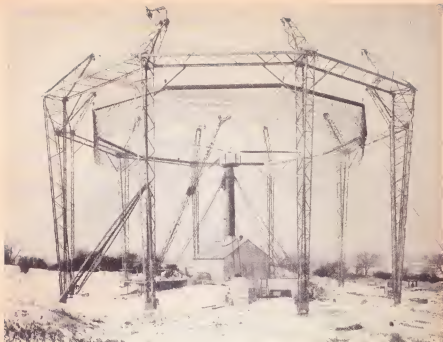
Before that first super-atmospheric rocket lifts off the ground, before the Moon-rocket enters the preliminary design stage, the work is going to be in the testing laboratory stage. No complex mechanism actually consists of A plus B plus C equals D; it's more or less A and B and C allow the inter-relations AB, BC, AC, ABC, BCA . . . and so on. The whole is greater than the sum of the parts—and twenty times as ornery.

Item: electric generators are old stuff—we knew all about making 'em, and making 'em so they'd work. Sure, commutators were a darned nuisance, but the problem had been licked. Graphite brushes and copper commutator bars, and mica insulation—even plastic-encased armatures that

wouldn't throw their windings. We knew the score. So for aircraft use, the generator would supply the power for the apparatus—

And the brushes proceeded to tear chunks out of the commutator after wearing away in a matter of a couple of minutes at thirty-five thousand feet.

It seems that graphite isn't slippery at all—it's a hard, extremely abrasive material. The only thing is, we here on Earth's surface never encountered really dry and air-free graphite, because the stuff soaks up water vapor and air and clings to them tightly. The slippery feeling of graphite was due to the adsorbed gases and vapors. At thirty-five thousand up and seventy below—



BRITISH INFORMATION SERVICES

A helicopter blade is simply an airfoil that is rotated about one end. Now this is a simple, clearly understood mechanical-physical problem . . . or is it? To test so simple an actual system as the helicopter blade, an elaborate and expensive testing device is necessary—complete with towers, supporting a ring of netting to stop flying blade-shards.

So we had to learn something new about building generators. The sum of the parts is not equal to the whole, in a complex system, because inter-relationships produce unexpected effects. And besides, it's extremely easy to overlook an absolutely essential part of something that you're used to, that you've always used, without ever knowing it was there. Like that adsorbed air on the graphite brushes.

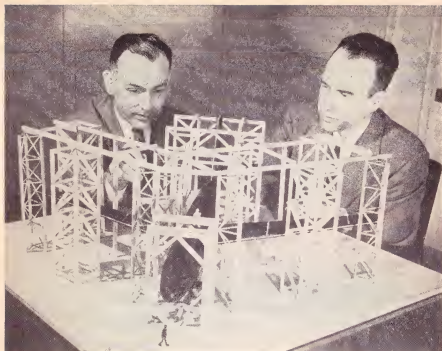
So before we start off Lunawards,

the bit-by-bit process of assemblage has to start. First each part of each component has to be tested. Then each component must be tested as a unit. Then the individual sub-assemblies. Then—

Models? Scale models are lovely; they're fun to make and they are useful for testing in some respects—but they can throw you for a most magnificent outside loop. Let us consider:

Suppose someone had discovered





BOEING AIRPLANE COMPANY

When systems of interacting systems get even more complex, as in the Boeing B-47B Stratojet bomber, the elaborate mathematical theories are finally tested with elaborate mechanical devices. It takes high-order engineering planning to devise a testing device.

U-235, and found a means of separating a 0.1 gram sample of the material back around 1930. By careful measurement, he could determine that U-235 emitted alpha, beta and gamma rays, and a slight radiation of a new type—neutrons; a very slight radiation indeed. Interesting new form of natural radioactivity, however. (It would be some while before he discovered it was due to the rare, but still present, occasional spontaneous

fission of U-235.) By careful calculation, he might determine that it would not be dangerous for a man to be within fifteen feet of a seventy-five-pound sphere of U-235, since its radioactivity is really very low—

As a calculation, it would be perfectly logical. Presumably after the surrounding mile of territory floated away at the top of the familiar mushroom cloud, someone else would conclude that, while perfectly logical, it

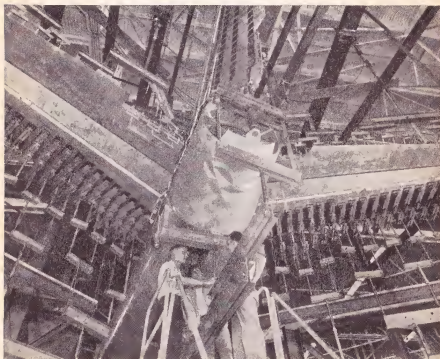
wasn't quite valid.

And anthracite coal will not burn in air. Take one piece and try it; it simply won't burn. Therefore it is logical that a pile of anthracite coal will not burn—or is something wrong with the logic there?

The whole is not merely the sum of the parts; it's the sum of the parts

*and their interrelations.*

A scale model will not tell the story; any chemical engineer works up a laboratory process from test tube to large beaker scale, to pilot-plant scale, and finally, he ardently hopes, to full-plant scale. At each step-up he's almost certain to hit new bugs, due to the change in relation-



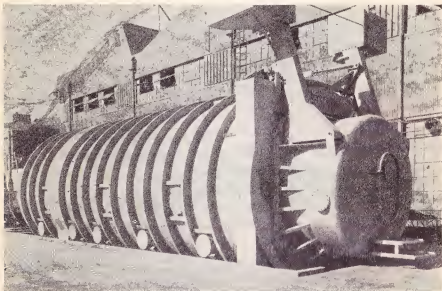
BOEING AIRPLANE COMPANY

An immensely complicated testing device is needed, because solid, mechanical linkages have to be used to represent gaseous, dynamic loads caused by air currents and structural accelerations. From thousands of individual attachments, individual turn-buckle adjusted I-beam "eveners" descend in ever-increasing orders of magnitude. The idea being to determine how great a force is required to cause failure, the test is necessarily destructive. But since it took over seven hundred thousand pounds load to cause failure, the results were satisfactory.

ships brought about by the increased masses involved.

Mathematics and physics today are still rather helpless in the face of any nonlinear process. Hydrodynamics, aerodynamics, a dozen phases of re-

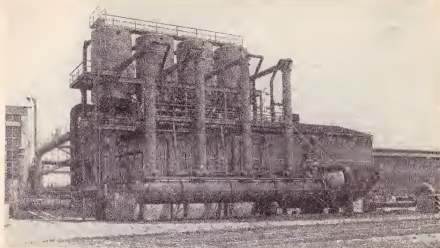
search are stumped because no mathematical technique for handling truly nonlinear phenomena has been developed. The digital computers can solve the problems—given time and enough digital computers. But the



NORTH AMERICAN AVIATION, INC.

North American Aircraft's new refrigerated altitude test chamber, complete with an air lock built in the immensely massive door. Titanium metal, when it is gas-free, is extremely tough and strong; when it has absorbed gas, however, it is brittle and weak. The presence of gas, then, has a direct effect on the mechanical properties of some metals—so we have to test what low pressure and low temperatures do to metals; until we actually test, we can not predict because of our extremely poor understanding of complex interacting systems. The difference between fifteen pounds per square inch and zero is an infinite ratio; it's easy to think of it in terms of being equal to the difference between 15 psi and 30 psi—but that's true only in an arithmetical sense. Relativity applies to factors other than gravitational fields! Since the effects of gas pressure are not fully known, and the effects of low temperatures are not predictable in detail, the cross-combined effects of low pressure and low temperature are wonderfully unpredictable. After all, pure metallic tin, a tough, soft metal, turns to "gray tin" under quite commonly encountered winter temperatures. And gray tin has roughly the mechanical properties of wet sand. Anybody want to bet what the properties of a particular alloy will be at zero pressure and minus 180°?

Of course it works the other way, too. Bridgemen, at the Harvard Extreme Pressure labs, found that a rubber washer backing a steel washer had cracked under the pressure—something on the order of 100,000 psi—and the steel had flowed into the crack in the "soft" rubber washer!



ORDNANCE AEROPHYSICS LABORATORY

And then there's the headache of testing devices that aren't static, but exceedingly dynamic—a ram-jet for instance. Since we can't predict accurately, we have to determine by test the performance of a ram-jet at forty thousand feet equivalent air-pressure. But a ram-jet, by its nature, works only at high velocities, and by its nature requires enormous volumes of fresh air. The ordinary high-altitude wind-tunnel can simply partially evacuate a space, and blow the remaining air around and around. This one, built for the Navy's Bureau of Ordnance Aerophysics Laboratories at Daingerfield, Texas, has a highly special system; it has to pump out air as fast as a high-power ram-jet engine under test can gulp it in; the air can be used only once, and a ram-jet uses it fast. The 125-foot long test-chamber disappears into the building at the right end; the horizontal pipe is the exhaust system. At the top are four big steam-jet ejector pumps that keep the pressure down.

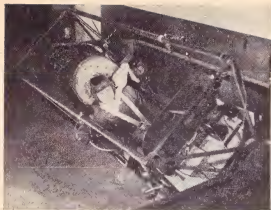
I've never been near it, but I suspect that, when in full operation, it can be heard from here to there, there being quite a distance from here. I suspect it approximates five 10,000 horsepower steam whistles all going at once. Careful study will show two men on the job, giving an indication of the scale.

analogue computers are still the best way we have of doing it.

The ideal, the perfect, analogue, however, is an analogue bearing a one-to-one correspondence with the actual device, the actual process. This type of analogue is known as the "Well, let's try it and see" type.

To date, most of the testing procedures in building large aircraft have been developed because of the failure

of any mathematical method to handle the problems imposed. No method known can surely and accurately inter-react the many relationships of many parts in the integrated whole, and give a certainly dependable answer. In building a skyscraper, or a bridge, the engineer makes the best calculation he can, allows a one hundred per cent margin of strength in his structural material loads, and then allows



ARMY AIR FORCES PHOTO



The exact mechanism of the human system has never been figured out; therefore tests of human beings cannot be made with any type of model or equivalent until sufficient work has been done to determine what has to be tested. A one hundred fifty pound sandbag is equivalent to a man in mass; a one hundred watt light bulb is equivalent in heat generation, a very small candle is equivalent in oxygen consumption, but what meterable device is equivalent to the human circulation system? Yet the human controller is the unit around which all the rest of the enormously complex equipment must be organized. In a sense, the complex mechanism of the body exists to serve and service the brain; in a similar way, the machines we design exist to serve and service the brain also. One of the most critical problems is the human organism's resistance to acceleration; we have practically no answers in that department. Such devices as the Army Air Force's centrifuge have helped to give some of the answers.

The volunteer for the test rides in a cockpit at the end of a long counterbalanced arm; the testing officer rides in a seat very near the center, little affected by the centrifugal forces. Remote reading instruments keep him fully aware of the condition of the volunteer, while movie cameras and other instruments record the test.

a two hundred to five hundred per cent factor of safety to make up for the lack of exact knowledge.

That system works fine, when you have the granite foundations of Manhattan Island, or the firma of Terra to carry the load. It's eminently practical—mighty few bridges or buildings fail.

But when you are holding the load

in the air by application of engine power, arbitrary and excessive load of structural materials are not permissible. No longer can you work on a basis of "Well, a one-inch rod ought to do it, so I'll specify a two-inch alloy steel."

The major problem facing the rocket builders today is the inability to pre-



One G



Two G



Three G



Four G



Five G

ARMY AIR FORCES PHOTO



Six G

Each additional G of acceleration appears to add ten years of age to a man's face. These too-small cuts do not adequately show the effect of six-G of loose and pendulous jowls, sunken cheeks, drooping eyelids and ears—a typical appearance of a man of seventy or more. The dual-needle instrument at the lower right in five of these cuts is the accelerometer. It would read zero only in free fall—or free spacel

ZERO HOUR MINUS X YEARS . . .

dict exactly what will happen before they build the complete and integrated unit. The job will have to be "calculated" by "analogue computers" of the try-it-and-see variety—and that's a big, expensive, and intricate job. The aircraft field has come closer to facing, accepting, and handling that class of problem than any other, because they, like the rocket engineer, must support every ounce of weight they carry by the thrust of their engines. Like the rocket, the airplane must carry its fuel with it; efficiency and weight-reduction go together for them, too.

Also like the rocket engineer, they must design their structures to take loads not only equal to the mass of the ship times G, but times multiple-G produced by high accelerations far exceeding Earth's gravity.

Like the rocket pilot, the aircraft pilot must face those high accelerations; the first studies done on human body structures under high acceleration have been done by the aircraft people.

The desired end product of the rocket engineer is a man-carrying rocket; the limitations of the man, then, will determine the limitations he can assign for his ship. We know far too little about the nature of a human being to calculate what a man can take; there the try-it-and-see runs

into more difficulty than usual. The last government that tried testing human beings to destruction finally went under by the combined efforts of a major portion of the rest of the world. We can't allow that.

Furthermore, it's quite pointless. A human being can stand approximately what he wants to stand; a man of great determination and operating with freely determined purpose—for a goal he himself considers worth the effort—can withstand far more than can a physically equivalent man who knows his position is hopeless, his future nothing, and the torture he endures pointless. The sum of the man's parts is not equal to the man as a striving, willing entity.

The final test will come when every portion of the rocket-ship-to-be has been individually and collectively tested—and is put to the definitive test by a human pilot who, by so doing, becomes a part of the total system.

It will then be a question of what the limits of the system are—and the human being will, in the end, determine that. Physically, he'll have to have a high strength-mass ratio. But he'll need something they haven't clipped meter leads on yet, something beyond physical mass-strength ratio, to get the maximum results. So far, we don't have any really good tests for that factor.

THE END

# IMPROBABLE PROFESSION

BY LEONARD LOCKHARD

*The author, justifiably mad, is a patent attorney. From this discussion—which is factual—it appears that the situation is patently mad.*

Cartoons by Welker

The sign on the door said: "Helix Spardleton, Patent Attorney."

This was it. I reached for the door knob, then paused to swallow hard and give my shoe tips a last rub on the back of my trousers.

A moment later I was inside, breathing hard and looking around the room nervously. There was a bench and a couple of chairs, for clients, I guessed. The walls were lined to the ceiling with all shapes and sizes of law and technical books. Straight opposite me was a young lady at a typewriter. She looked up but I didn't get her eye immediately because I was doing a quick double take on the framed legend hanging over the doorway behind her. It said:

The Martians are fortunate in one respect: they have no lawyers.—E. R. Burroughs.

"May I be of assistance?" asked the girl.

"I'm Carl Saddle—" I was interrupted by a ringing voice in the inner office.

"Sure, doc, I got it . . . diapers, toys, cigars. But since when did you start smoking . . . oh, yes, the cigars are for the baby. O.K., Doc, I'll have Susan get 'em and bring 'em out."

I started in again: "I have an appointment to see Mr. Spardleton about a—"

Again the voice in the inner office. "No, Doc, I haven't forgotten about filing the application. In the first place I don't think it's patentable. Also, I've just been too busy. Huh? I *am* going to hire another assistant. I'm going to interview an applicant this morning. Sure, Doc, if I hire him I'll send



him out, along with the diapers and stuff. But remember, your chances of getting a patent are dim. Yeah, I know, you and I think it's a magnificent contribution to biochemistry, but what the Office will think is another matter. Good-by, Doc."

During the lull I said: "I want to see him about a job."

I could have been mistaken, but it seemed to me she uttered a mournful laugh as she got up from her desk. "He's ready now. Through here."

I trailed her into the next room.

Helix Spardleton acknowledged my entrance with a flick of enigmatic black eyes. "Be with you in a moment, young man. Susan, here's a list of things Doc Marchare wants. You can get 'em any time this morning. He can't leave the lab on account of the baby."

As he talked with her I studied him out of the corner of my eye. His gray-ing hair was somewhat sparse, but he had few of the other indicia of middle age. He held a long cigar in one hand and with the other toyed nervously with the paper weights and folders on his desk. He seemed to vibrate hap-hazardly within the confines of his neat brown tweeds.

His expression was faintly baffling. By that I mean that not only did he look faintly baffled, but that it was a contagious bafflement, so that I, too, immediately felt baffled for no visible reason. There was also this nervous, harassed air about him, as though he

suspected that at any moment he would wake up and find himself walking down the street in his underwear. It made his eyes twitch.

The inner sanctum was also lined with bookcases, filing cabinets, and random packing boxes. The few bare spots on the walls were covered with pictures and exhibits. The upper three feet of the room was packed firmly with cigar smoke.

I turned with a start.

He was speaking to me. "You don't look nuts."

"Thank you, sir."

He sighed. "Definitely a handicap. Still, since you're here, we might as well go into your qualifications." He peered at something on his desk, which I saw was my letter of application. "B.S. in chemistry . . . LL.B. with courses in patent law . . . admitted to the District of Columbia Bar and the Patent Office Bar . . . hm-m-m . . . the usual bare minimum. Ever been confined in a mental institution or worked in the United States Patent Office?"

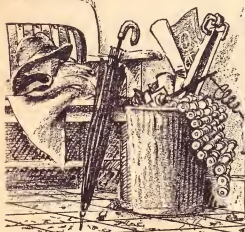
"No, sir. You mean it helps?"

"Helps? Mr. Saddle, didn't you know the right kind of insanity is absolutely indispensable in a successful patent attorney?"

"They didn't say anything about that in law school," I said uneasily.

"They wouldn't." He muttered to no one in particular: "Young man here could have been ambulance chaser, corporation shyster, home

**DIET**  
EASE



buster. But no. He wants to get into the patent business. Of course," he added thoughtfully, "the bare fact that you want to be a patent attorney is indicative of a certain mental imbalance. The case is therefore not hopeless. Now, Mr. Saddle, just what did you cover in your patent courses at the university?"

"We had the usual elementary material, sir: substantive patent law, patent prosecution, patent moot court. In all of which I made straight A's."

He shook his head. "Worse and worse. It'll take you months to unlearn all that—if ever."

"But . . . but, sir, it was sound, solid patent law!"

He sneered. "If it was sound and solid, it wasn't patent law. For your belated information, Mr. Saddle, the rules governing what is validly patentable and what isn't are the most quixotic, inconsistent, and incomprehensible codification ever conceived in the mazes of the judicial brain. But," he added firmly, "they're easily grasped. If you just have faith. Do you have faith?"

"Oh, yes, sir!"

He chuckled grimly. "We'll see. Recite R.S. forty-eight eighty-six."

Now Revised Statute 4886 is the one patent statute that every serious student of patent law knows by heart. I began rattling it off confidently: "Any person who has invented or discovered any new and useful art, proc-

ess, machine, composition of matter, plant, or design—"

A little box on the side of Mr. Sparleton's desk began to buzz. He picked up the phone. "Yes, Doc. I sent Susan out to get them. Oh? No, that wouldn't be invention. Yeah, I *know* you worked on the biochemistry of this problem for ten years before you succeeded. That's just the trouble. The Office would say that you merely routineered. The Supreme Court said in the Cuno Engineering case that you've got to have a flash of genius. You've got to get the answer all of a sudden. No, a mere hot flash won't do. Now here's how you can protect yourself against future routineering. String a wire across the middle of your cellar stairs. Yeah, just keep a pencil and notebook under the bottom stair and write down the first thing that occurs to you when you recover consciousness. That would make it a patentable flash of genius. Sure, Doc, any time. Good-by."

He shook his head regretfully as he replaced the phone. "It's sometimes hard to make Doc understand patent law. Where were we?"

"R.S. forty-eight eighty-six."

"Oh, yes. 'Any person who has *invented*—' What *is* invention?"

"Well—" I stopped. "Well, everybody knows what invention is."

From the way he leered at me I knew I had stepped into that one. "They do?"

"Don't they?" I faltered. "After all this time?"

"No, sir! *Nobody* knows! In a hundred and fifty years of patent law, no judge has ever gone on record with a definition of 'invention.'"

"Then how can the Patent Office ever know when to grant a patent?"

"Easy. Invention is always defined in the negative. If you can prove to the Office that your idea isn't *non-invention*, it's automatically invention. So you don't have to bother your head about what invention is, but you *must* know what *non-invention* is." He demanded: "Does that make sense?"

"In a way," I said hurriedly.

He eyed me sternly. "Mr. Saddle, when a patent attorney makes a statement he doesn't believe, he puts great emphasis and conviction into it. Uncertainty may cost him the confidence of both court and client."

"Yes, sir."

"So, what is non-invention?"

"Oh, that could be a lot of things. Mere change in proportions, mere change in size, mere substitution of materials, aggregation—"

"Oh, me," he sighed. "True enough, those are general rules for non-invention. But what would you do with *this* case? Assume the prior art teaches the flotation of copper ore with several pounds of oleic acid per ton of ore, and you discover you can do the same job with a few drops per ton. Invention?"

"No," I said confidently. "That's a mere change in proportions, a mere difference in degree."

He tapped sadly at his cigar. "Wrong. When you change proportions so drastically, the difference becomes one of kind. *That's* patentable. Mineral Separation v. Hyde. Next question." He pointed up to the electric light. "Suppose that's a carbon lamp with a filament one thirty-sixth inch in diameter. I make a lamp filament one sixty-fourth inch in diameter. Invention?"

"Well," I said slowly, "I'd say not. Merely a change in size—"

"Wrong again. Edison did just that and increased the amount of light by a factor of eight. Difference in kind. Invention, said the court. But let's try again. You'll eventually get something right." He held up a rubber-tipped pencil and glared at me. "*You* know Faber couldn't patent *this*. Why?"

"Aggregation," I said happily. "The pencil did nothing more than pencils had always done, and the eraser did nothing more than erasers had always done. There was no coaction between pencil and eraser, hence no combination, hence unpatentable."

"Good. Now consider the drive shaft and steering column of the automobile. Could I get a valid patent on the combination of drive shaft and steering column?"

"No," I said, "because the drive

shaft does nothing more than drive shafts have always done, and the steering mechanism merely steers. There's no coaction, hence no basis for a combination claim."

His jaws clenched so tight that his cigar yelped. "Then you've never read how the Supreme Court validated the Selden Auto Patent. The court said the two elements, though each was old, worked together *through the driver*. That coaction made them a patentable combination.

"Now," he continued, "let us look into the matter of novelty. Can you take out a patent on a chemical element never before prepared in the pure state? For example, suppose I'm the first to isolate pure uranium, vanadium, thorium, and tungsten, which heretofore were known only in crude form containing varying amounts of oxides. Can I get a patent on the pure metals?"

"I guess so—on the process, at least. They'd be new, useful—"

"Even so, I couldn't get a patent. In all four of those cases, the courts said the inventor's product differed over the art compound only in the degree of oxygen present, and that making a purer product didn't amount to invention. Really, Mr. Saddle, you're being quite difficult." He opened his desk drawer, took out a bottle of aspirin, popped one in his mouth, and then offered me one. When I turned it down he put the pellet on his desk in front of him and

studied it for a moment. "Now there's a curious little pill. Kräut first made crude acetyl salicylic acid a hundred years ago. Then Hoffman purified it sufficiently for therapeutic use and took out a patent on pure aspirin. Was his patent valid, Mr. Saddle?"

I thought rapidly. "Hoffman's aspirin differed merely in the degree of purity, like the uranium and thorium cases?"

"Yes."

"Then, Hoffman's aspirin patent was clearly invalid."

Mr. Spardleton sighed. "I fear, Mr. Saddle, that you're trying to muddle through this interview on pure logic. Logic, my young friend, has little use in patent law. We fall back on it only when all other weapons fail. As the great Holmes said, 'A page of history is worth a volume of logic.' Perhaps I should have told you that by the time the aspirin patent reached the Supreme Court, the honorable justices were consuming this purified acetyl salicylic acid by the pound, if not the ton, on account of the large number of patent cases they had to decide—including the Aspirin Case. They knew what a boon aspirin was to the judiciary throughout the land, and quite possibly they could never have cleared their heads sufficiently to decide the case without it. So far as the Supreme Court was concerned, aspirin carried its validity with it. They upheld the patent even though the im-

pure product was old. You could see their reasoning clearly if you only had faith."

At that point I was glad to hear the buzzer sound again on his desk.

"Oh, yes, Doc," he said over the phone. "No, that's no argument. I *know* you're the first to make one synthetically, but you just can't get a patent on a synthetic product if it's already old in nature. There's got to be a difference. Yeah, good-by, Doc." He replaced the phone with a sigh. "Seems to think that merely because he's got a world-beating new invention, it's patentable. Where were we? Oh, yes, let's get on with novelty." He pulled a manila folder from a stack on his desk and opened it. "Here's an application on a brand new chemical, p-amino epizootic acid. Only this morning I filed an affidavit proving it's four times as effective as nitrogen mustards in arresting cancer. What's your opinion as to its chances of allowance?"

"Did the examiner cite any prior art?" I asked cautiously.

"He found one pertinent reference in the JACS. Here's the photostat of the article."

I read aloud the sentence he indicated. "P-amino epizootic acid is incapable of existence."

"Well?"

"I can't see that you have anything to worry about, sir," I said with a puzzled frown. "The reference proves you

have an invention. If you can't get a patent on that, I'll eat my hat."

To my amazement the cigar tumbled to his desk, and he recovered it with trembling fingers. I stared aghast at his paling face. What had I done? I waited, and the color slowly returned to his cheeks.

Finally he whispered: "We *don't* make such wagers in this profession, Mr. Saddle. There have been too many cases—" He daubed at his eyes with his handkerchief. "In fact, my last assistant . . . most promising young man . . . but horribly rash in his bets about getting his cases allowed. His haberdashery bill was ruinous, still, he might have survived but for the pump."

"Pump?"

"The stomach pump. Collapsed. Quite premature—well within the year's guarantee. We never got it all out."

I swallowed hard and took a nervous step backward. "I see what you mean."

"Of course," he said hurriedly, "every profession has its occupational hazards. The patent attorney is ordinarily in no more danger than, say, a test pilot or a dud-bomb deactivator, provided he has a good psychoanalyst, nurses his ulcers properly, and takes a four months' vacation every year."

I said, "It's just a matter of being careful, I suppose."

"Exactly. Now, back to epizootic acid. For the present, it suffices to

tell you that the examiner's rejection is perfectly correct. The law says you can't patent anything previously described in a printed publication, and further that naming a chemical is describing it. It's immaterial that nobody ever synthesized it before, or even that somebody said it couldn't be made. I hope you won't ask me how the courts reconcile that with the Aspirin Case. But it's all quite comprehensible, if you just have faith. How is your faith holding up, Mr. Saddle?"

Fortunately I didn't have to go into the state of my faith, because just then his phone buzzed again.

"You've thought of a difference, Doc? Good!" His face brightened, then clouded. "Is *that* all? No, making an old product a different color isn't patentable invention. The same question came up in the Blue Coal case, where the court said you couldn't patent dyed coal. Sure, Doc, if you get any other ideas, just let me know."

He put the phone back. "Invention . . . novelty . . . next in the Statute is—"

"Useful," I said absently, wondering what this persistent client had up his sleeve.

"Ah, yes, the invention must be useful, by all means. The Patent Office daily issues patents on utterly useless, worthless, and unworkable ideas, of course, which merely proves that 'utility' in the Patent Office is some-

thing else from the word as defined in Webster. But if the specification says the invention works, the Patent Office says it's useful. Furthermore, you realize, do you not, that the Patent Examiner follows a strict moral code in questions of utility?"

"I do?"

"Of course you do. Suppose I apply for a patent on a sure-fire roulette wheel, guaranteed to quadruple the house take. Useful? Certainly. But patentable? No, because gambling devices are immoral. Unless"—he pointed his finger at me—"it's a pinball machine that gives you a free game for a high score. *That* makes it an instrument of skill, and perfectly patentable. Do you follow me?"

"Yes, sir."

He sniffed dubiously and peered at his dwindling stogie. "Or take tobacco leaves. Suppose I invent a way to dye cheap leaves so they'll look like high-grade stock. Patentable? No, because I'm cheating the public. Suppose I dye plain lubricating oil to give it that desirable greenish fluorescence. Patentable?"

"No, sir," I said. "That'd be cheating, too."

"Bah! The court said it was perfectly patentable, because the dyed oil was actually just as good as the fluorescent kind." He looked behind me. "Oh, hello, Susie's back. Susan, turn around and show Mr. Saddle your seamless nylons. Observe, Mr. Saddle, the painted seams in the back.

Patentable?"

"Yes, sir, because according to what you just said, even though the public is fooled, the stockings are just as good as those with seams."

"Wrong, sir! You see to the aging justices on the bench the female calf is a sacred thing. Its attractive display with the genuine goods outweighs the considerations of objective quality. Now"—he pointed at the row of gilt-printed law books in a case across the room—"how about those titles? They were printed with a cheap bronze alloy that only an expert can distinguish from gold-leaf printing. Patentable?"

"I wouldn't think so, sir. That's fraud on the public."

"No, Mr. Saddle, no. It's not like Susie's legs. With books, nobody really gives a hoot whether it's gold-print, or cheap bronze-print. The bronze ink is perfectly patentable. So, you see, the moral code of the patent examiner is all his own. You'll find its like nowhere. And so, the Office quite consistently grants patents on improvements in the art of curing tobacco or on making spiritous liquors more spiritous."

"I thought a lot of people frowned on tobacco and liquor," I said.

He frowned irritably. "There you go again, trying to be logi—" The phone buzzed again, and he answered it. "Oh, hello, Doc. You say you think the plain wording of the law automatically entitles you to a patent? Well, let me put it this way: is your

invention an art, machine, manufacture, composition of matter, plant, or design? You see, it's got to fall in one of those statutory classes before you can get a patent. Sorry, but keep thinking." He put the phone back.

Who, I asked myself, was this "Doc," and what was his wonderful but hopelessly nonpatentable idea? I had a feeling that I'd soon know, and that it wasn't necessarily going to make sense.

"That," said Spardleton, "leads us into the question of statutory classes. What, Mr. Saddle, are the statutory classes?"

"Why," I said wonderingly, "you just named them over the phone, didn't you? The patent statute says you can get a patent *only* if your invention is an art, machine, manufacture, composition of matter, plant, or design."

"Oh, dear, no, Mr. Saddle. That's hopelessly simplifying the patent law. Just as invention is defined as being non-noninvention, a statutory class is anything that isn't a *non*-statutory class. We look first at the non-statutory classes, such as 'law of nature,' 'Scientific principle' and so on. If it isn't in *that* category it's automatically a statutory class and may be patentable. And what is a law of nature? Take the famous case of Morton versus New York Eye Infirmary. Morton advanced surgical technique by decades with his discovery of ether





anaesthesia, and he took out a patent on it. But the court held the patent invalid because it covered a law of nature, to wit, that the central nervous system was deadened by ether. Laws of nature not falling within the statutory classes, *ergo*, patent invalid. And it's the same with scientific principles, business methods, problem-solving methods, methods of animal training, rules for playing games, and printed matter. So of course you understand why Einstein couldn't have patented his Relativity theories."

"Yes, sir."

"But you look puzzled?"

"I was just wondering about that Selden auto case. It seems to me that the combination of steering column and drive shaft necessarily incorporated the mentality of the driver—hence the combination was based on a mental act."

"Not at all. Any idiot can operate the Selden device. No intelligence whatever required. Fatality columns in the daily papers prove that. Perfectly patentable combination. Clear now?"

I passed my hand over my forehead.

"Yes, sir."

"Good. We'll pass on to the famous Vitamin D case. Hess found that he could form vitamin D in milk and foodstuffs by ultraviolet radiation. The court said his process was merely a law of nature, because the same thing had been going on for centuries in curing hay or copra with the u.-v.

light in sunshine. On the other hand take Armstrong's feedback radio circuit. The opposition said his patent was invalid because he had simply discovered a scientific principle, which in fact he had. But the court validated his patent. Why?"

That one I knew. "Because he incorporated his principle in a concrete hookup," I said proudly. "You can always patent the mechanism that exemplifies the newly-discovered scientific principle."

"Sure," he said smoothly. "So, in just what statutory class does a radio circuit fall? Is it an art?"

I replied carefully. "No, I wouldn't think so. In patent law, 'art' is synonymous with 'process.' You have to treat materials so that you alter them in a new way."

"Is it a machine?"

"Well, no, because there aren't any moving parts."

"A manufacture then?"

"Maybe . . . no, I guess not. A manufacture is a static thing without a mode of internal operation, like a glove or a broomhook."

"And certainly not a composition of matter, like a new chemical compound or breakfast food," he murmured, "nor a plant, nor an ornamental design."

"I wouldn't think so."

"So the feedback circuit didn't fit any of the statutory classes. And yet the court said the patent was good. Why?"

He shifted triumphant gears with his cigar. "Because it didn't fit in any of the non-statutory classes, such as a mere law of nature or mere scientific principle, or method of doing business. The court just called it an *instrumentality* and let it go at that. The idea is, if you can put your non-statutory class into some concrete 'instrumentality,' you can get a patent even if the instrumentality doesn't fall in one of the statutory classes. Consider the problem Clarence Saunders had when he invented the method of doing business known as the self-help grocery store. Could he take out a patent on that?"

"I thought about this. 'He couldn't patent the method of doing business, as such. But maybe the concrete embodiment—'

"Exactly. His patent attorney, being no dope, patented the *whole store*, complete with unidirectional turnstiles, shelves of canned goods, and cashier's booth. That led the way to patenting whole buildings, or even the barest suggestions of buildings, such as park-in theaters that had nothing more than a movie screen and inclined ramps for the customers' cars. But to this day nobody knows in what statutory class such things fall."

He looked up as Susan dumped some packages on the table near his desk.

She said. "I think I got everything. I didn't know how good Dr. Marchare

is with diapers, so I got the kind stamped with indelible lines, so he'll know where to fold them." She pulled one out.

Spardleton grabbed it and held it up to me. "Well, is *that* patentable?"

"No, because you can't patent printed matter. You just said so yourself."

"Hah! Wrong again. You *can* patent a printed item if the printing has a functional rather than a literary significance. As a matter of fact, the court has already upheld the validity of the patent on this particular diaper. It's analogous to the old streetcar transfer coupon book. *That* was held patentable because you could tear it off to show either a.m. or p.m.—that made it functional. And what are these?" he asked Susan.

"Some balloons for the baby."

He picked up one thoughtfully. "Interesting. That leads us into the question of designs. What's the general rule, Mr. Saddle?"

"You can get a design patent on anything with a new and ornamental appearance."

"Hmph." He lay his cigar aside and began puffing away at a balloon until it assumed the shape of a horse. This he held up to me betwixt thumb and forefinger. "Can I get a design patent on this?"

"Sure. It's a pretty good-looking horse."

He made no other comment than to loosen his fingers a little, so that some

of the air rushed out of the balloon with an extremely horselike sound.

"No?" I asked feebly.

"No. If you simply copy nature, you haven't invented anything. Even a design has to involve invention. So how about those?" He pointed to the bookends holding up half a dozen books on the front of his desk. One bookend was in the shape of the front of a horse, the other in the shape of the horse's posterior.

"I guess not," I said. "That's just copying nature, too. And furthermore you couldn't take out one design patent on both, because you can cover only one item in one design patent."

He thrust the lit end of his cigar to the balloon and chuckled wickedly when Susan and I jumped. "My dear fellow, those bookends are patentable in one design patent, because they form a single commercial entity. Furthermore, you *can* copy nature if you do it with a novel effect, here provided by slicing the horse in half." He ruminated smokily over his cigar for a moment. "But don't feel too bad about it. I didn't believe it was patentable, either, until I won the case in court."

I ventured hesitantly: "I guess only the Supreme Court knows for sure what is patentable and what isn't."

He began to cough and choke. Finally he wiped his eyes and said: "Maybe the Supreme Court, *en banc*, does know the patent law." He paused

briefly for another convulsion. "The Supreme Court is composed of two groups known as the Infallible Five and the Furious Four. The first group writes these majority decisions on patent law that have brought patent lawyers to their present condition. The second group writes the dissenting opinions, trying to hold to the law as it was laid down by the first group the week before. The composition of each group shifts from decision to decision, so that no one justice is right all the time. They sort of pass the infallibility around to keep peace in the family."

I became aware that my mouth was open. I closed it and asked: "Then there doesn't exist any one person who really knows what the patent law is?"

"I didn't say that. There is such a person. Just one. Herbert Krome, a Special Examiner in the Patent Office. He has never yet had a rejection overruled by the Patent Office Board of Appeals, the Court of Customs and Patent Appeals, the United States District Courts, or even the United States Supreme Court. On the other hand, when he allows a patent, no court ever succeeds in invalidating it. So, if Krome ever gets your case, you just give him the best arguments you have and then stand back and pray, because you know it's futile to appeal his finals. I'm warning you about Krome because he handles most of our work. The chances are good that if I

hire you, your first case will be before him."

I waited respectfully as he crushed out his cigar in the ash tray.

"So now comes the real question," he said finally. "Do you still want to be a patent attorney?"

I studied his cryptic black eyes unsteadily. "I'm not sure I qualify in certain respects."

"I'll be the judge of that. Answer the question."

"Well, yes, sir, I'd still like to try it."

He shrugged his shoulders. "Too bad. When can you start to work?"

My face lit up. "You mean—"

But the phone was buzzing again. "Yes, Doc," he said, "you probably ought to file, but I still don't think there's much hope. Sure, it's unobvious. But the more unobvious it is, the less likely other people are to discover it, and the less likely you are to get a patent. On the other hand, if you think someone else may file on the same invention, then it may be patentable. What I mean by that is, if ten other scientists suddenly invent the same thing and file applications, that would indicate to normal people that the idea is pretty obvious. But the patent examiner handling the cases takes a different attitude. He immediately allows claims in all ten cases and declares a ten-party interference, on the theory of 'Let's you and him fight.' It's the sole form of

amusement granted the patent examiner by Congress and he indulges in it whenever possible. So, only on the thin hope of getting into an interference, I think it might be well to file."

He put the phone back and returned to me. "Now then, with full knowledge of what is in store for you, you still want to enter this profession. What clearer evidence of insanity could a prospective employer want?" He wrote briskly on a slip of paper. "Here's your first assignment. You'll find Dr. Nathaniel Marchare at this address. He's one of my most lucrative accounts, despite the fact he rarely invents anything worthwhile that the Office considers patentable. But go out there anyway and get the full details on his latest invention, and take these diapers and cigars with you. When you come back you can write up the spec and I'll look it over."

"But why file if you really don't think it's patentable?" I asked.

He gave me a severe look. "Because some unethical attorney would take his money if I didn't."

"Oh, of course. And just what is this particular invention?"

Mr. Spardleton, who had already turned back to the pile of work on his desk, looked up in faint annoyance. "Merely a synthetic baby."

"Oh," I said. "Merely a synthetic b—. A *what?*"

He didn't even look up at me. "A

synthetic baby. And Marchare thinks it is patentable. Hah."

I reached over shakily, picked up the aspirin that still lay on Spardleton's desk, and put it into my mouth.

Spardleton sighed. "Did it *all* go out the other ear? Can't you understand that you can't get a patent on a synthetic product if the natural product is known? Not that we won't file, however. Now go on over there and

get the data from Marchare."

I walked unsteadily out of the office, past Susan's commiserating face, and out to the elevators.

I had a job. I was working on my first case.

I was a genuine patent attorney.

I laughed out loud as I boarded the elevator. I don't know why the other passengers shuddered and shrank away.

## THE END

*(Continued from Page 55)*

More than one of our authors has found that to be the case, in even the most esoteric specialties. One recent editorial of mine, concerning animal behavior, was called by a genuine expert on practical animal psychology—a professional lion-tamer, who is a regular reader. I'm fairly sure that, if we wanted an article on the factors influencing the size of the holes in Swiss cheese, some reader of this magazine is an expert on the subject.

One of the faults in a society based on division of labor is the fact that there is so little cross-connection of the specialists. Reduced to the practical level, a specialist in one technology may have knowledge, useless except theoretically to him, which would immensely ease some problem another technical specialist is struggling with. The prize in that line, I think, was the method a chemist used to solve the ancient problem of opening oysters and clams. Using his special biochemical knowledge, he dumped the clams in a pan of water, and added half a bottle of carbonated fizz-water. The clams promptly started gasping for breath. Naturally, the CO<sub>2</sub> of the fizz-water had no effect on the flavor of the clams.

What would you like articles on? And—what subjects would you be prepared to discuss?

Somewhat pushed around, from page to page, here are the ratings on the June, 1952 issue:

Place	Story	Author	Points
1.	The Specter General	Theodore R. Cogswell	1.88
2.	Blood Bank	Walter M. Miller, Jr.	2.11
3.	Ascent Into Chaso	M. C. Pease	2.88
4.	The Ghost Town	Donald Kingsbury	3.00

Incidentally, one reader recently commented that I'd been giving cover display to new authors frequently, of late. The display goes to stories, not authors. Nearly all science-fiction authors are amateur authors, and professional technicians of some type. Even Isaac Asimov writes as a hobby; his professional work is in protein and enzyme research. Science-fiction writing is inherently a perpetual Open Tournament; the result is that there's no real competition between science-fiction authors—simply open discussion. You've noticed how they borrow and develop each other's ideas!

THE EDITOR.



BY A. BERTRAM CHANDLER

ASTOUNDING SCIENCE-FICTION

# FRONTIER OF THE DARK

*An experiment: this is a science-fiction fantasy — yet whether such things might be valid for humans or not — they'd make peculiarly dangerous alien enemies!*

Falsen had never liked cats, and cats had never liked him. That was one of the reasons why Captain Canning, master of the interstellar ship *Etruria*, had ordered that his second pilot be marooned on Antares VI, an inhospitable planet barely capable of supporting human life and deemed by the Federation not worthy of the time, trouble and expense of any colonization project. At that, Falsen was lucky that the mutual hostility between himself and the feline species brought only marooning as its consequence. Others like himself had been tossed out of air locks without space-suits, had been carefully shot with specially manufactured bullets, had, in fact, been purged from the body politic by many and divers methods more interesting than pleasant. But Falsen had once saved Canning's life at considerable risk to his own—on the occasion when the bloody-minded Coralians overran and all but an-

nihilated the trading post on their planet—and, as Canning remarked to his senior officers, there *are* limits, you know . . . And, Canning had added, he couldn't be *certain*—

So, at the appointed time, the whine of the Mannschen Drive generators had sagged from the supersonic to the subsonic and *Etruria*, navigating once more in normal space-time, had made a gingerly approach to the sixth planet of the ruddy sun, had thrown herself into an orbit around this planet. Number Three boat had been readied, and to the boat Falsen, under heavy escort, was taken. He could have broken free even then, he could have slipped out of the manacles around his wrists with ease. But there were too many of the crew to see him off, and Wilbraham, the commander, was carrying a heavy, old-fashioned automatic pistol, an outmoded blunderbuss of a thing that fired, as Falsen well knew, slugs of



metal rather than bolts of energy. So he went into the boat, which was to be piloted by Kent, his own junior, and Wilbraham, still carrying his weapon, came too, and Minnie, the ship's cat, spat one last malediction at him before the air lock doors closed.

They set him down on a spongy plain that was more than half swamp, with the last of the daylight almost gone and a thin, persistent rain drifting down from the overcast sky. Falsen shivered as they pushed him towards the air lock door. "You might," he protested, "have let me bring some stores, some heavy weather gear—"

"You won't need 'em," Wilbraham told him. "You're lucky," he gestured with his pistol, "that I didn't use this. If I thought that you had the ghost of a chance, I would."

"You could, you know, sir," volunteered Kent. "Shot while attempting to escape—"

"Escape?" asked Wilbraham. "To what? He's welcome to all that he finds here. Although I still think that the Old Man was too soft-hearted. Out, Falsen. And"—this last in tones of great irony—"good hunting!"

So it was that Falsen stood ankle deep in mud and, with upraised fists, cursed *Etruria*, cursed the boat that had brought him here to this dismal world. The fast fading flare of the lifeboat's jets was reflected from his eyes, made them glow like those of some wild animal. And then there was

only the darkness and the falling rain, and the solitary figure clad in low shoes, in shirt and shorts, dressed not for pioneering but for the control room of the interstellar liner from which he was forever barred.

Cursing, Falsen soon realized, would get him nowhere. With one hand he brushed his wet, pale blond hair away from his eyes, then his stocky figure stiffened as he surveyed his surroundings. The rain was not heavy enough to impair visibility, although heavy enough to soak and chill. Enough light still remained, once the castaway's eyes had become accustomed to the darkness following the flare of the lifeboat's departure, for him to make out the horizon—a dim, deeper blackness against the blackness of the overcast sky. Featureless was this line of demarcation, level, unbroken by tree, hill or building, so straight that for one panic-stricken moment Falsen thought that he had been set down upon some tiny islet in the midst of a great, calm sea. Fighting down his fears he tried to remember all that he had ever read, in Pilot Books and Astrogoing Directions, of Antares and its worlds. He remembered vaguely that this planet's equatorial zone was encircled by a broad belt of almost level plain and swampland; that it was only in the equatorial zone that temperatures were endurable by Terran standards.

Once again he turned in a slow cir-

cle, eyes, ears and nose alert for any indication of life—of life, and warmth, and food. He heard nothing but the steady susurrus of the rain, smelt nothing but dampness and vegetable decay and— And— Surely, he decided, that was smoke, wood smoke, an elusive fragrance that did no more than hint at the presence of some kind of intelligent life. He shook himself then, and purposively started to trudge in the direction from which he judged the faint odor had come. The mud slopped over the tops of his shoes, making his feet even colder, his saturated clothing clung clammy to his body yet, as the exercise warmed him, with a certain moist heat of its own. One hand, as he walked, explored, not for the first time, the pitifully inadequate contents of his pockets—a combination tool that combined pocketknife with screw driver, tiny adjustable spanner, corkscrew and bottle opener, a pocket lighter, a sodden pack of cigarettes. Whatever he might find at the end of his walk he was armed, after a fashion. He had a cutting tool or weapon, and he had fire. He had, too, his own physical strength and the ability to look after himself in unarmed combat.

Stronger grew the smoke odor, and stronger, and with it another smell, not unpleasant—a smell that in other circumstances would have promised more than the warmth and dryness to which he looked forward now with increasing certainty—yet, paradoxi-

cally, a smell that destroyed his hopes of food. He could see something ahead now—a hill that humped its not inconsiderable bulk well above the featureless horizon, halfway up whose denser blackness flickered a ruddy circle of dim light, the entrance, he decided, of a cave—a cave in which dwelt somebody who, in all probability, was a castaway like himself, somebody with the same needs and desires—or, he amended, similar needs and desires. For he was, by this time, reasonably certain that his co-ruler of this barren world was a woman.

He walked cautiously now, treading carefully to avoid snapping the twigs and branches of the low shrubs that covered the relatively dry slopes of the hill. The other, whoever she was, might be armed. And, armed or not, too sudden an awakening from her sleep might make her—vicious. Cautiously he climbed the hill, carefully—yet with a mounting excitement in his veins. It was only now, at this moment, that he fully realized how lonely he had been. Appreciatively he savored the fragrance of the fire, of those other scents that most men would never have noticed, especially at this distance. At last he was at the cave mouth, was peering inside.

The fire burned low, casting a dull, crimson radiance over the clean sand floor, over the pile of twigs and small branches a little to one side of it, over the neatly folded clothing and the

huddle of blankets. Walking slowly and softly, scarcely breathing, Falsen entered the cave and, skirting the fire, made his silent way to the little heap of clothes.

Curiously, he picked up the garments one by one. They were a woman's, as he had known, and they bore, as he was now discovering, insignia similar to those on his own uniform. This person had been, as he had been, in the employ of Interstellar Mail Lines. He looked at the epaulettes of the shirt—two silver braid bands on scarlet—and thought: *Nurse*.

Meanwhile, he was cold. He turned to walk to the fire, stepped inadvertently on a dry twig. He turned again, this time with no thought for caution, to see the blankets tossed violently aside and the white figure of a girl leap from them. He caught her in mid-leap, forced her down to the sandy floor. He felt the flesh of her naked shoulders shudder and crawl beneath his hands, flinched from the animal hate that glared from the pale, almost colorless, blue eyes. He bared his teeth in a mirthless grin, said, "Steady, my dear. Dog doesn't eat dog, you know."

Suddenly she ceased to struggle. Falsen got to his feet, gave her his hand to help her up. In the light of the dying fire she looked unreal, somehow, her flesh gleaming with a shimmering insubstantiality. Yet her actions were prosaic enough. She dusted the sand from her body, then walked to her

clothing and started to dress. Falsen watched her—the slim, graceful lines of her, the high cheekbones, the pale blond hair and, when she spoke, the strong, white teeth.

She said, her voice low and husky: "Who are you, and where do you come from?"

"Falsen. Nicholas Falsen, late second pilot of *Etruria*. They decided that they didn't like my company. And so—"

"Why didn't they kill you?"

"Some of them wanted to. But I saved the captain's life once." He said sneeringly, "I suppose you were equally obliging."

"Perhaps," she said tonelessly. "I wouldn't be—*now*. I was dumped here, with enough stores to last me about six months. I've been here for three."

"Then you must be from *Calabria*. She was about three months ahead of us."

"Yes. I'm from *Calabria*." Dressed now, she turned to look at him as he stood in the firelight, stared at his soaked clothing and muddy shoes. She said, "I heard no rockets. You must have come a long way. Wouldn't it have been better to have left your clothes?"

"I didn't know who or what I might find," he told her. "Then there's convention, and training, and all the rest of it. I notice that you've dressed."

"So I have," she admitted. "But as *ex-officers* of Interstellar Mail"—

she laughed bitterly—"we must dress the part."

"You haven't told me *your* name."

"Veerhausen. Linda Veerhausen. But you're cold, and I'm no hostess. Get out of your wet things and between those blankets, and I'll bring you something hot—"

"But I wouldn't take your stores."

"Rubbish. I've hardly touched them. There's a sort of crayfish in these pools that's not too bad eating—not the same as red meat, but it serves. But this calls for a can of stew."

She went into a smaller cave opening off the main one, and by the time that Falsen was between the blankets she was back, carrying the can of stew, hot, the smoke still spiraling from the tube of chemicals that had heated it. Falsen took his share gratefully and then, exhausted by the emotional and physical strains of the last few days, slept soundly. The girl built up the fire and sat beside it, alert, unsleeping.

Outside the cave the steady whisper of the rain died, and finally ceased.

Falsen was awake with the dawn, snapping from sound sleep into instant awareness. He threw the blankets to one side, walked on bare, silent feet to the cave entrance. The girl, standing on the little ledge overlooking the downward slope of the hill, sensed his coming, turned to greet him. A smile flickered briefly over her sullen face. "This is it," she

said. "Your first morning on Antares VI. At that, it's better than *my* first morning."

Low to the east a sullen, red glow stained the gray clouds. Slowly it spread, spread and lifted, suffusing all the overcast with dull crimson. And then there was a sun in the sky, Antares, with upper and lower limbs vaguely defined, and all the pools and channels of the swamp glimmering like blood among the grayness of vegetation.

"What now?" asked Falsen.

"Breakfast," said the girl. "But we have to catch it first. I've been keeping the stores they left me as an emergency ration. Look!" she pointed, "that pool there, shaped like a horse-shoe. That's where I get my crayfish. I'll show you."

"Do we go . . . as we are?"

"You can dress, if you like. But as we are is better for things like crayfish. If it were sheep, now—" She licked her lips with a red tongue.

"Don't!" said Falsen sharply.

The girl ignored him. "On my last leave," she said. "I *knew* then. One morning, but finer than this, in the Scottish Highlands—" She smiled reminiscently. "I often wonder who, or what, that shepherd blamed."

"And yet, knowing the risk, you kept in the Service?"

"Why not? As a nurse I had access to the drugs—and saw to it that there was a sudden and complete mortality among the cats. If it hadn't been for

that passenger, and her pampered Persian— And now”—she spat viciously—“*crayfish!*”

“Let’s go and get ’em,” said Falsen. “I’m hungry.”

Together they made their way down the hillside, down to the pool. The spongy vegetation was soggy underfoot, still saturated with the night’s rain. The rising of the sun had brought a steamy, uncomfortable warmth to the air and Falsen was thankful that he had not bothered to dress, thankful in a way that there was only his smooth, hairless skin to get muddy, that the discomfort was no worse. At the pool that Linda had pointed out to him they stopped, and there the girl made a careful search of the vegetation along the bank. She selected, finally, a long tendril having at its end an elongated, yellowish berry. This, with her left hand, she lowered into the water. Watching, Falsen saw that there were tiny fish in the pool, and that somebody, or something, with very weak eyesight might just possibly mistake the berry for one of the fish.

“The thing to do,” explained Linda, “is to keep it moving, just so. And you need hands for this. Now we start in earnest.”

Carefully, so as not to disturb the water, she assumed a prone position, still angling with her left hand, her right hand poised ready. Falsen watched the pale colored berry, watched the tiny fish—if they were

fish—dart up to it, investigate it, then sheer off with a rather elaborate show of disinterest. Then, suddenly, the little water creatures were gone, flashing away to the farthest recesses of the pool, and something big and gray scuttled over the bottom. With scarcely a splash Linda’s arm flashed down into the water—and then she had rolled over on to her back, holding with both hands a thing that could have been an oversized, infuriated Earthly spider. Uncertain what to do Falsen stood by, more than a little sickened by the appearance of the thing that the girl had fished from the pool.

“Shall I—” he began doubtfully.

“No. All right. There!”

Something cracked loudly and sharply, and then the crustacean was rolling on the spongy vegetation, a gray, hairy football in size and appearance, dead.

“We cook him,” said the girl. “I’ve tried them raw, but—”

The thing, Falsen admitted, wasn’t bad eating. It would have been improved by salt, and vinegar, and bread and butter, but it was much better than nothing. And then, after the meal, there was a cigarette from the pack that Linda had carefully dried when she dried his clothes, a shared cigarette for, as the girl pointed out, she had not yet found any kind of vegetable that would serve as a tobacco substitute. “But you will lose

the desire," she said. "After all—it's not natural. I'm just having this one with you to be sociable."

"Then let me finish it."

"No. Funny—with the smell of it the desire came back. After all, we *are* civilized and there's no reason why we shouldn't make the best of two worlds."

"The main problem right now," said Falsen, "is to make the best of one."

He got to his feet, walked to the cave entrance to survey the one world that was left to them after all their years and light-years of interstellar travel. He stiffened suddenly. "Linda!" he called. "Come here!"

"What is it, Nick?"

"Look! Do you see it?"

Away over the swamp, all of seven miles distant, something was moving, something that reflected the crimson rays of the sun. Something brightly metallic it was, moving fast, flying low. As they watched it stopped and hovered, poised over one of the larger pools of water.

"A helicopter," muttered Falsen. "Looks like a survey job."

"But I thought that the Federation didn't want this world."

"There are races outside the Federation." He grinned suddenly. "There are races that don't know anything about the family scandals that the Federation is keeping so quiet about! Quick! Get some damp wood on that fire!"

"But suppose they *are* human?"

"Even then, they won't know why we're here. We can cook up some yarn about shipwreck!"

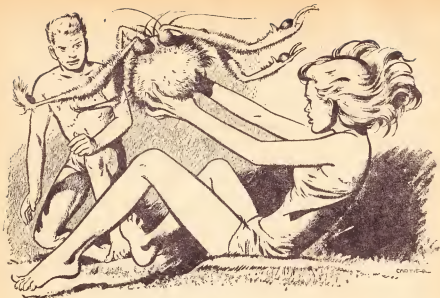
As he talked he was tearing up armfuls of the brush growing outside the cave, throwing it on to the fire. The white smoke rose, a trickle at first, then great, rolling billows, pouring out of the cave mouth, flowing down the hillside like a heavy liquid. Over the swamp the helicopter rose slowly from the surface of the pool that it was investigating, made directly for the hill and the cave.

"Not one of ours," said Falsen, watching intently. "That's a serrated disk they have rather than rotors. Doralan—? Could be. But we'd better get dressed."

"Why? This is better if we're going to—"

"We're not going to—yet. They're taking us to their ship. *Hurry!*"

Falsen, coughing and spluttering, came out of the cave again when the humming of the aircraft's approach filled all the humid air. He looked up at the thing, saw the characters on the cylindrical fuselage, decided that his guess had been correct. She was Doralan. But what were the Doralans doing here? Linda came out and stood beside him, watched the helicopter drop to a neat landing a little way down the slope of the hill, watched the door in the fuselage open and three red-cloaked, red-hooded figures



clamber out. Falsen, his arm over the girl's shoulders, felt her muscles tense and shift, whispered: "Not *now!* You'll spoil everything."

"But they look," she murmured, "so tempting—"

"And they've got some kind of lethal ironmongery trained on us from inside their ship."

"That shouldn't worry us. Unless—"

In single file, the Doralans marched up the rough path. Their scarlet cloaks were brave splashes of color against the gray of sky and plain, their scarlet hoods shaded faces that were like the grave, piquant faces of little girls. Their bodies, too—what little could be seen of them—were

human enough in outline.

"But," Linda whispered, "they're human—"

"No," said Falsen softly. "Just similar conditions, parallel development. Take 'em apart and they're—different. Yet near enough to human for—us."

The leader of the Doralans, she who wore the gold star on the collar of her cloak, addressed them. Her voice was thin and high, clear, and every word was perfectly enunciated.

She said, "You are from Earth."

"Yes," agreed Falsen.

"Why do you make smoke?"

"Because we are cast away upon this world, and we need help."

"That is obvious. But why do you

make smoke?"

"That is obvious, too. To attract your attention."

"But in the course of our survey we were bound to have visited this, the only hill within miles. Your call for help that was not urgently required has disturbed our work."

Falsen said, "I'm sorry about that."

"Lady," said the officer to Linda, "I would have no further talk with this so obviously inferior being. It is clear that you are in charge here. Tell the male to follow us to our helicopter. You shall be taken to our Lady Mother."

"Better play ball, Linda," Falsen told her. "They've a sort of matriarchal setup, and the Lady Mother is the captain of their ship."

He followed the three women to the helicopter, was somewhat surprised when the officer gestured to him to get in first. But, he found, he was not to make the ride in comfort. The three who had been left to guard the aircraft grabbed him unceremoniously, pushed him into a compartment at the stern that was already more than half full of specimens—geological as well as others of a softer but even less pleasant nature. From his uncomfortable seat he could see the backs of Linda and the three Doralans—the Earth girl towering head and shoulders above her diminutive companions. He could see a contraption

of metal tubing that might, or might not, have been a weapon. He hoped that the proximity, the all too close proximity, of these warm-blooded beings would not lead the girl into doing something foolish. In the confined space the odor of them was almost overpowering.

Silently, smoothly, the helicopter took off. It flew with equal smoothness—but that, Falsen decided, might be due as much to local aerological conditions as any excellence of design. At last a slight forward tilt of the deck told him that they were coming in to a landing; a slight jolt told him that they had made it. Linda turned to look at him before she left the aircraft—her face was white and strained, but she essayed a grin. Falsen grinned back—and much of his grin was relief at being able to lift the fleshy part of his thigh from the rocks upon which he had, perforce, been sitting. He stumbled forward to the door, half fell out on to the spongy, gray vegetation.

He looked around him with interest. Except that the plain here was not level, but gently undulant, the site of the Doralan camp differed very little from the place from which they had been brought. The only high things in sight were a range of hills to the eastward, and the ship. A secondhand job, Falsen decided—Earth-built. One of the old City class that Interstellar Mail got rid of all of ten years ago. But they were good, solid old wagons,



he thought, and built to last.

"You," said the officer, breaking into his thoughts, "come with us."

"What are your orders, Lady?" Falsen asked Linda, more than a little sardonically.

"Don't ask me," she said. Then, to the Doralan, "Look, Little Red Riding Hood, in our world we do things differently. Horrid though it may seem, where we come from this male is my superior officer."

"Then come, both of you," said the Doralan. "Here you will both take *my* orders."

They entered the ship by the stern air lock, crowded into an elevator cage and were rapidly lifted through deck after deck, coming to rest, at last, just under—or so Falsen estimated—the control room right forward. They left the cage, walked along a short length of alleyway terminating in a door. On this the officer rapped sharply. Somebody on the other side called out something, and then the door slid open. The furniture in the room beyond the door had been changed, of course, had been modified to suit the dimensions of its present occupant—but otherwise it was still the captain's day room of a City-class liner. Sitting behind the big desk was one of the little women who now owned and operated the ship, dressed, as were her crew, in scarlet—but scarlet well ornamented with gold devices. Her

hood was thrown back to show short, iron-gray hair. Her features were lined by experience and authority—yet the mouth was kindly. Sitting on the desk, a little to her right side, was a huge, ginger cat, a Persian if the length of its coat were any guide. This beast, as the Earth people entered, got to its feet and, with arched back, spat viciously.

"Pondor!" said the Lady Mother reproachfully.

The animal replied in a mewling voice—and Falsen could almost have sworn that the reply was in words. *Imagination*, he thought.

The ship's officer made her report to her captain. The Lady Mother heard her story, then spoke a few words of dismissal. To the two castaways she said, "Be seated."

"So you speak our language, Lady Mother?" asked Falsen. He seated himself on the built-in settee, that being the article of furniture best adaptable to his greater weight and bulk. The girl sat by his side.

"Yes," said the captain, "I speak your language. And first I must apologize to you for the conduct of my officer. She is unused to the idea of a world in which the two sexes are equal or, indeed, to one in which your sex is superior."

"That was nothing," said Falsen—then jumped to his feet with a yell, bent and rubbed the calf of his leg.

"Pondor," said the captain sternly. "That is no way to treat guests!"

"They don't like me," the words were slurred, barely distinguishable, "so I don't like them."

"Then leave the room. At once!"

"Why should I? My people were worshiped as gods once."

"We never worshiped you, Pondor. Go!"

"Oh, all right." Then as the beast, tail in air, sauntered out, they heard the one word, muttered in tones of great contempt, "*Females!*"

"What a . . . what a charming animal," said Linda. "Do you have any more like him?"

"Yes. I think you'll agree that we've done wonders with your cats—just fifty generations of controlled mutation and we even have a few bilingual specimens like Pondor here. But I am sure that you will like some refreshment."

One of the little women came in with a tray on which were small, spouted cups and plates of tiny cakes, another, an officer, followed her, carrying a pad and a styluslike pen. This latter seated herself and prepared to write.

"Tell me your story," said the captain.

"We are Nicholas Falsen and Linda Veerhausen," said Falsen, "second pilot and nurse respectively of the liner"—he hesitated slightly—"Etruria. We were bound from Chylor to Port Gregory, on Mars, in our System, with general and refrigerated cargo

and two hundred passengers. It was my watch," he said. "Miss Veerhausen shouldn't have been in the control room with me, but she was. She was there—and it saved her life."

"Why, what happened?"

Falsen sipped from the little, spouted cup that had been handed him, decided that it was like weak tea flavored with aniseed. He sipped again—not because he liked the overly sweet brew, but to gain time. He heard the girl, her voice strained, say, "It was horrible, horrible."

"Yes," he agreed. "It was horrible. The field of the instruments in Control saved us, I guess, but the rest of the ship—Have you ever seen what happens when a Drive Unit runs wild?"

"No," said the Lady Mother. "But I've read about it."

So have I, thought Falsen. He went on, "They were all dead, of course. All of them. Some of them—changed. I'd cut the Drive as soon as the buzzer went, but it was too late. And then, as we were investigating, we heard the thing starting up again. You know, it does sometimes, even with the power cut off. All part of this temporal precession business. So we threw what bits and pieces we could into one of the boats and got out—but fast."

"Where is your boat?"

"I could show you the spot," lied Falsen. "But unless you've got special mud-dredging gear, you'll never find her. We shifted our stores to this cave

of ours, and slept there the night—and in the morning she was gone. I should never," he said, trying to make his voice sound bitter, "have left both air lock doors open."

"There will be an inquiry," said the Lady Mother, "when we return you to your own people. Meanwhile, you are our guests. Arrangements are being made for your accommodation." She sipped from her cup, then set it down on the deck for Pondor, who had just returned. The animal, using his fore paws to tilt the vessel, drank noisily and appreciatively. "You will be wondering," she went on, "what we are doing here. It is not a secret. In return for certain trading privileges your Federation has ceded us this planet, and this is the first prospecting and surveying expedition. We expect to remain here for two hundred days. I trust that you will not mind being separated for so long from your own kind."

"I mind," mewed Pondor unexpectedly. "Find their boat for them, mistress, tell them to go. They are not our people. They—smell. They smell wrong."

"Rubbish, cat. If you'd spent all your life aboard an Earth ship, you'd say that I smelled all wrong."

"No, mistress. You wouldn't. Make them go."

"Lend us a boat," said Falsen, "and we shall go. When an *animal* tells me I . . . stink it's time that I went."

"Don't pay any attention to Pon-

dor," said the Lady Mother, smiling. "He's jealous. He's used to being the center of attention and now he's having to . . . how do you put it? . . . take a back seat. Just ignore him, and he'll stalk out, all outraged dignity, and cuff his two wives to restore his self-esteem."

"A charming animal," said Linda.

"If I thought that you meant that," Pondor told her, "I *might* like you."

"How intelligent are these . . . things?" asked Falsen. "Or are they no more than sort of glorified parrots?"

"I don't know. Of course they couldn't solve an equation or build a ship—"

"Our people were gods once," said Pondor, "and gods don't build ships."

"Could you make a world, then?" asked Falsen.

"I don't know. I've never tried."

"Prenta, here, will show you to your cabins," said the Lady Mother. "You will mess with my officers. I shall see you again."

"I hope that I shan't," muttered the cat.

The cabins to which they were shown were comfortable enough by Terran standards, although the furniture was on far too small a scale for comfort. Each cabin, however, boasted a little shower cubicle—and this, thought Falsen, would be useful. Having explored his tiny, temporary home he sat on the edge of his bunk,

waited until the murmur of female voices, heard indistinctly through the thin bulkhead, should cease. At last it stopped, and shortly after came a soft rap on his door. It was only the captain's cabin that was fitted with a voice-controlled door opening device, so Falsen had to get to his feet and open his himself. Linda Veerhausen came in.

"That purser, or whatever she is," she began, "was in a talkative mood. I think that she was trying to convert me to these people's way of thinking. She kept harping on this big ship of theirs, with a crew of a hundred, and not a single male among them. Not counting, of course, Pondor, or whatever the beast's name is—"

"A hundred—" said Falsen thoughtfully.

"Yes," she said. "A hundred. And we are only two. But there's the value of surprise—"

"We have to do it," muttered Falsen. "How we do it—that has to be worked out." He paced up and down in the narrow confines of the little cabin, like some caged wild beast. "They won't have changed the controls of this ship much, if at all. I'm a good pilot, and I can navigate. There are worlds out towards the Rim, out past the Rim, that'll not be colonized for generations, if at all."

"What sort of worlds?" she asked. "Like this? Or arid deserts? Or with atmospheres of chlorine or something equally toxic?"

"Some of them. But there are good worlds, too. Planets with rivers and forests, and timid, fleet-footed animals not unlike the Earthly deer."

"You're not lying?"

"Why should I lie? And get this straight—if we stay here the balloon is bound to go up sooner or later. We have to get somewhere where there's no explaining to do. And that fast."

The girl was not listening. She stood tense, alert. Suddenly she strode silently to the door, opened it, pounced with the same speed that she had shown in her capture of the crayfish. Swiftly and silently she backed into the room, the thing between her hands struggling viciously, trying to cry out, succeeding, in spite of the pressure on its throat, in giving a strangled squeal.

"What—?" began Falsen. Then he saw what it was. It was a cat—not Pondor, but, presumably, one of his two mates. Like him, it was of Persian descent, but it was black. And the Lady Mother had said that all the cats could talk.

"This *thing*," said Linda, "was spying."

"Can it understand English?"

"I don't know. But it may have learned it from that other brute. You may have spied," she went on, addressing the animal, "but you won't talk!"

Claws drew angry furrows down her face as she lifted the cat to her mouth. There was one, semiarticulate

cry—then a silence broken only by a steady, rather horrid dripping sound. Suddenly the woman choked: "This fur gets between your teeth."

"The fur will have to go the same way as the rest of it," said Falsen in a matter-of-fact voice. "We can't leave the body around."

"Help me, then."

"All right."

A little while later Falsen carefully inspected the cabin. "It's a good thing," he remarked, "that this soap of theirs is so strong smelling. I doubt if even Pondor could tell that his girl friend has been here."

"It must be almost dinner time," said Linda, "but now I haven't much of an appetite."

"Neither have I," admitted Falsen, "but we shall have to go through the motions. Anyhow, if that horrid aniseed tea we had was a fair sample of their food, a small appetite will be understandable."

A little later the survey ship's chief officer, at whose table they had been placed, remarked, "Earth people never seem to appreciate our food. Is yours, then, so very different?"

"Very," said Falsen.

Falsen awoke, that next morning, much refreshed. He did not need to be called—for him the first light, even when he was in a metal box with no outward looking ports or windows, was alarm clock enough. He threw back the light blankets of his bunk,

jumped out. Silently the door opened and Linda came in.

Falsen turned to face her. He saw that she had made concessions to the ship's conventions, was wearing a gaudy wrapper loaned her by one of the officers. She was fully dressed by the standards of the burlesque stage, but by no others, even though the kindly owner of the wrapper had explained that the garment was too big for her.

"Careful, there's somebody coming," whispered Falsen.

He was dressing when the door flew open without ceremony. One of the officers looked in and, ignoring Falsen somewhat pointedly, addressed Linda Veerhausen.

"Lady! The Lady Mother desires the presence of both of you, at once."

"What's wrong?" asked Falsen.

"Something dreadful. Last night, when the ship slept, huge, savage beasts attacked the night watch. Clenni is dead, and four of her people. Not only dead, but—parts of them eaten. Hurry!"

In a minute or so—Falsen having finished his dressing with more regard for haste than for appearances, Linda still in her wrapper—they were in the captain's day room. The Lady Mother faced them across her big desk, and her face was grave. On the desk sat Pondor, who did not forget to spit a curse at them as they entered. The captain cuffed him absent-mindedly, then spoke.

"Sit down," she said. "You will have heard something of what has happened. Perhaps you can help."

"In what way?"

"You, Mr. Falsen, were an executive officer on your last ship. You must have read astrogating directions. You might, just possibly, have read those astrogating directions applying to this planet. Can you remember any mention of any large, dangerous animals among the fauna?"

"I can't remember," said Falsen.

"Well, then—you were living here for some time before we came. Did you see anything, hear anything?"

"Yes, Lady," said Linda, while Falsen was still considering his answer. "Some nights we heard something howling. And early one morning we saw something big and gray slinking away from our cave. After that we kept our fire going."

"You should have told me."

"But we thought you knew."

"I have explored all around the ship," said Pondor suddenly, "and I have neither seen, heard nor smelt anything—until this morning. The smell hangs strong, even in here."

"I examined the—bodies," said the Lady Mother. "What was left of them."

"Then you might be able to reconstruct—"

"Only this far. Whatever it was—it used teeth as its main weapon. Perhaps its only weapon. Whatever it was, was immune to the fire of my

crew's blasters—and some of them must have been fired at close range. Was this thing you saw—armored?"

"It seemed to have a scaly hide," said the girl.

"I ask your advice," said the Lady Mother. "On your world, or so I have read, there are still large tracts of wild forest, of savage jungle, where men and women still go to hunt, and kill, large dangerous beasts. We have nothing of that kind, we never had, even in our barbarous past. We have no experience. You have. You must help us."

"What steps have you taken so far, Gracious Lady?" asked Falsen.

"I have sent both my helicopters out, and they are searching all the area of which the ship is the center. Should they see anything they will signal in at once."

"Useless," said Falsen, an idea germinating in his mind. "The only way to track any kind of game is on foot. You'll never do it with aircraft."

"How big a party will you require?"

Falsen hesitated. Then—"Six," he said, "not counting ourselves. Somebody in charge who can speak English. And, of course, weapons."

"You had better break your fast before you go."

"No. This is too urgent. Give us a few moments to get dressed and we shall be ready."

"As you please. The party will be waiting for you in the after air lock."

Falsen, dressed himself, went into Linda's room while she was hastily donning her uniform.

He said: "We'll try that range of hills. There're bound to be caves there. And where there are caves you might find—anything."

"Yes," she agreed. "But shall we?"

"Why not?" He went to the door, opened it, looked up and down the alleyway. It was deserted. He returned to the cabin, shut the door. While the girl finished dressing he talked rapidly, pausing at intervals to give her time to object or to elaborate. Then, together, the two of them made their way to the after air lock where they found the ship's people waiting for them.

The Lady Mother was there, and she handed weapons to the man and the girl. Falsen examined his curiously. It was a pistol, its grip a little small for his relatively large hand. It had a bell-mouthed muzzle, and a firing stud instead of a trigger. It could be set either to paralyze or to kill, and its maximum effective range—here the captain paused while she did a conversion sum in her head—was fifty yards.

Prenta, the officer who had brought them in from the cave, was in charge of the party—and she showed little enthusiasm when she learned that, to all intents and purposes, she was to be under Falsen's orders. She snapped a command, however, and her five women shouldered their packs. She

herself carried nothing but her weapons, and neither did Falsen nor Linda Veerhausen.

She said, hesitating over the title, "What first, Mr. Falsen?"

"We shall examine the scene of the—killings," said Falsen.

One by one they clambered down the ladder to the spongy vegetation. The Lady Mother halted them at the foot of the gangway. "They came," she said, "as far as this. They must have wanted to get into the ship, but could not negotiate the ladder."

"Why do you say 'they'?" asked Falsen.

"There were at least two. Some of the bodies bear teeth marks—and one of the things had smaller jaws than its mate—or mates. But look, there's blood around here—smeared blood, not freshly shed blood. They must have prowled, and jumped, and rolled on this mossy growth."

"Could be."

"And here," said the captain, leading them farther from the ship, "is where we found the bodies. They have been taken into the ship, of course, but, as you see—there was a struggle."

"Hm-m-m. They must have attacked," said Falsen, "from that clump of shrubs. Have you looked there?"

"But of course."

A mewling voice broke into the conversation. Falsen looked down, saw that it was Pondor, who was addressing the Lady Mother in her own



language. She replied to the animal briefly, then said to the man: "He wants to know if anybody has seen Kristit—that's one of his two mates."

She smiled briefly. "I'm afraid that I was rather short with him."

"I'm rather sorry for him," said Linda. "After all—he will feel a loss."



as deeply as any of us."

"I suppose so. But he might make himself useful—he *should* be able to follow a trail. Why not take him with you?"

"Why not?" said Falsen.

"Are you *walking*?" asked the cat.

"No. I do not wish to go. I shall stay here and look for Kristit."

He stalked off, tail in air.

Linda, who had been carefully examining the low shrubs, suddenly straightened and pointed, crying, "They went that way!" Falsen, following the direction of her outstretched arm, saw that it led towards the low range of distant hills. The Lady Mother hurried to where the girl was standing, asked, "How do you know?"

"See," said Linda, "how the tendrils of this mossy stuff have been disturbed—"

Falsen looked, expecting to see nothing—and was not disappointed. The Lady Mother looked, and said that she thought she saw the trail found by the girl. Prenta looked—and remarked superciliously that, of course, Earth people were much closer to the animal than the Doralans. Falsen, lying, said that the trail was as easy to read as a tri-di chart.

They followed this doubtful trail, then. The Lady Mother standing by her ship watched them go, and, thought Falsen, she still would be standing there when they returned.

anxious to learn that vengeance had overtaken the thing or things that had murdered her people.

Overhead one of the two helicopters dipped and hovered, its buzzing distracting. At last: "Tell them to go away," said Falsen to Prenta. "If the things are lurking anywhere around, it'll scare 'em off."

At the word of command one of the Doralans pulled out a fishing rod aerial from her pack, put on a headset and spoke into it. The flying machine bumbled off in the direction of the gleaming tower of metal that was the ship. Meanwhile Linda, on hands and knees, was examining the vegetation. "They traveled in a straight line," she announced. "And fast."

"I don't know how you can tell all that," said Prenta. "But I suppose that it is as you say."

The sun, a vague, ruddy ball of light in the overcast sky, rose higher, drawing a steamy moisture, a stench of decay, from the numerous stagnant pools. A diversion was caused by something that splashed loudly over to the left of the party. Three of the Doralans ran to investigate, and loosed their fire on it. But it was only one of the crustaceans—a huge beast, its body at least two feet in diameter. The energy bolts from the Doralan pistols had cooked it—and so Falsen called a halt for lunch; he and Linda satisfying their appetites with the stringy, but far from flavorless, flesh. Prenta and her women, although

offered a share, preferred their little, oversweet cakes.

After they had eaten, and after Falsen and Linda had shared one of the precious cigarettes—which neither of them enjoyed—the party pressed on. The ground rose gradually, became drier, and the air, although still hot, was drier, too. Here and there bare rock showed through the gray, spongy, mosslike growth. And once something small and lizardlike, too fast for Prenta's skill as a marks-woman, scurried from one stunted bush to another.

They pressed on—and had now and again to climb from ledge to ledge. Then—"There!" cried Linda. "They went in there!"

"There" was a narrow opening between two boulders, an opening that, by its very darkness, gave promise of depths beyond and below. *Promising*, thought Falsen. *Promising*—He said: "You brought lights, I suppose."

"Of course," replied Prenta. "We may not have the skill of your so marvelous people as trackers of wild beasts, but we are not devoid of intelligence." She started snapping orders to her women. Three of them produced large, powerful hand torches from their packs. The one with the walkie-talkie started a conversation with somebody—presumably with the ship. She repeated whatever it was she had been told to Prenta, who turned to Falsen and said, "The Lady

Mother says that we are still under your orders."

"And why not? That was the understanding. And we have yet to find the beasts for you."

"Give me one of those lights," said Linda. "I shall go in first."

"No," said Falsen. "I shall. There might be something in there."

"I thought that that was why we had come here," remarked Prenta in acid tones.

"He is prone to understatement," replied Linda.

Falsen took the light, switched it on, then squeezed his body between the two boulders. There was a little more room inside the cave—but, even so, his body blocked the tunnel from the view of those behind him. He called: "You were right, Linda. They came this way."

"Let me see," cried Prenta. Then—"These clumsy males! Your big feet are obliterating the tracks."

"Do you want to go first, then?" asked Linda.

"Yes."

*You would*, thought Falsen, but said, "I'm sorry, Prenta, but your Lady Mother put me in charge. I must go first."

The cave, to Falsen's nostrils, smelt dry and sterile—not the sterility of death, but a sterility that had never known life. He said nothing, however. After all—Linda had led the party here, and her senses were at least as good as his own, perhaps better. And

some extra sense that he possessed told him of the girl's mounting excitement, of the eager anticipation of the hunter with the kill almost within sight. *An extra sense?* On reflection he was not quite sure. Perhaps it was only that his other senses were keen enough to appreciate her quickened breathing, the subtle change of the very smell of her, just as the same senses brought him evidence of the fear—a fear that was kept well down, well under control, but still *fear*—of the Doralans.

The beam of his torch suddenly touched something smooth and gleaming, something that shone like a huge, black mirror. Falsen hurried forward, ran to the water's edge, his feet stirring up fast falling clouds of the powdery sand. He saw that they had come into a huge cavern, a vast, subterranean hall that was almost filled by the glassy waters of the lake. Only here, where they had come from the tunnel, and directly opposite, was there any beach. And behind the farther beach, black in the grayish rock wall, was the mouth of another tunnel.

"They must have crossed the water," said Falsen.

"If you say so," replied Prenta. "You've destroyed what tracks there were."

"We shall have to cross," said Linda. "It looks deep."

"There's another tunnel mouth," said the Doralan officer. "And an-

other. Which one?"

"The one over there, with the beach, I think— Yes. I can see tracks," murmured Linda.

"I can't," said Prenta rudely. "I'm beginning to wonder just what special senses you people have got."

"You'd be surprised," said Linda. "Nick—I'm going across. Tell her ladyship that I want four of her people with me. You, with Prenta and the other one, had better stay here to guard our rear."

"Are you sure that you'll be all right?"

"Of course. Prenta, will you tell these women of yours to get ready for a swim? I suppose that these weapons and torches of yours are waterproof?"

"They are." The Doralan officer snapped orders in a bad-tempered voice.

Four women unbuckled and dropped their packs, swiftly divesting themselves of their scarlet uniforms. Their almost human bodies glimmered pallidly in the reflected glow of the torches, the beams of which were trained on the entrance to the nearest tunnel. Each of the women, Falsen noticed, buckled her belt, with its holster and pistol, back about her waist after she had stripped. Linda did not. Falsen supposed that she knew best, said nothing.

The girl picked up one of the torches and, holding it high, waded into the lake. She said, "It's *cold*—" But she

kept on and dropped suddenly, with barely a splash, into a swimming posture, struck out for the farther beach. The beam of her torch, which she had not extinguished, made fantastic, shifting patterns on walls and cave roof. Prenta snapped something in her own language, and the four Doralans followed the Earth girl. One of them also carried a torch.

Falsen and the two women watched the swimmers reach the other side of the lake, watched them clamber up to the tunnel mouth. Linda dropped to her hands and knees, seemed to be examining the sandy floor. She straightened then and, hands cupped to her mouth, shouted across the water: "They went this way!"

"Be careful!" replied Falsen.

"Don't worry! I shall be all right!" came the reply.

Prenta called something incomprehensible to her people, then sat on the sand, her back to the rock wall. Her pistol, though, was in her hand, ready for instant use. The other Doralan sat beside her officer, pulled the radio antenna from her pack, put on the headset and started to talk. Falsen, pacing up and down, watched the mouth of the tunnel into which the others had vanished. He watched the glow of the torches fade and, as those using them turned a corner, die. And the faint whisper of bare feet over dry sand died with it.

He said, to make conversation, "I wonder what they'll find."

"Nothing!" snapped Prenta. She turned on him a face in which worry and responsibility struggled with indignation. "What are the words in your crude language? A wild goose chase? That is what you have led us on."

"That is what you say," countered Falsen, resuming his moody pacing.

"For Korsola's sake stop that!" almost screamed the Doralan. "It's bad enough being stuck on this world, in this cave, without having to watch a half-witted male walking miles to get nowhere!"

Falsen grinned. "I give the orders here. Your own Lady Mother said that it was to be that way."

Prenta started to make a vicious reply, then stiffened. Across the lake, in the dark tunnel, somebody was screaming. And with the screaming came a crackling sound—the same crackling sound that Falsen had heard when the Doralans had used their energy guns on the crustacean. Abruptly the crackling of released energy ceased, and the screaming—Something howled, a dismal ululation that was not human, that echoed from the rocky walls, that seemed to be amplified rather than diminished with each reverberation.

The silence fell like a blow.

Falsen stripped hastily, flinging his garments from him. He entered the water in a shallow dive, gasped as the icy chill of it shocked his skin. Some-

thing passed him, going like a torpedo. It was Prenta. Behind them the walkie-talkie operator gabbled a few hasty words into her microphone, flung aside her garments and followed them. Although the two women had belted on their pistols nobody had thought to bring the torch, the beam of which still shone across the lake on to the mouth of the tunnel.

Prenta had entered the dark opening when Falsen, the other Doralan close behind him, scrambled up the shelving sand. He heard Prenta scream, heard the crackle of her pistol and saw the blue flare of it, heard, too, a loud and frenzied snarling. Prenta screamed again and staggered backwards out of the tunnel to the beach, knocking over both Falsen and the other woman. All three fell into the water—and with them, there fell something huge and gray and furry, something whose eyes gleamed green and evil in the light from across the lake. Its eyes gleamed, and its teeth gleamed, and those teeth were at the throat of the radio operator—and the white body sank into the bloodstained water.

Falsen and Prenta fought the thing—hands against teeth and claws, human intelligence against a more than animal cunning. The full fury of the attack seemed directed against the woman, however, and the man was fighting for her life rather than for his own. He got his fingers into the shaggy mane, his legs around the

beast's body, pulled it somehow from the Doralan officer. It broke away then, and it was gone—and Falsen was alone, paddling with an exhausted stroke, barely keeping himself afloat. Something glimmered pallidly below the surface, and the man dived. It was Prenta. He got his hands into her hair, towed her to the beach, dragged her up the shelving sand.

She was alive still, although unconscious. There were deep scratches on her shoulders and neck. He shook her brutally until her eyes opened, said, "I'm going to find Linda." She made a sound that could have been assent, that could have been merely a moan. He left her there.

It was dark in the tunnel, but Falsen found his way sure-footedly, only occasionally putting out a hand to steady himself against the rock wall. The odor of freshly spilled blood was heavy in the air, and his nostrils tingled as he smelled the ozone that told of the recent discharge of electrical weapons. His foot caught upon something metallic. He picked it up. It was one of the torches that had been carried by Linda's party.

All of them were there, sprawled ungracefully on the blood-soaked sand. The three Doralans were dead. No close examination was necessary. They were too close to humankind, Falsen knew, to live with their throats torn out. Linda was there. There was blood on her face and on her white body. She blinked in the beam of Falsen's

torch. She said, in a matter of fact voice: "It's you."

"Yes," said Falsen. "I left Prenta by the water. She'll live."

"Hadn't you better—?"

"It would be as well," agreed Falsen.

"In case *she* comes, put the light out."

There was a little cry of pain from the girl. Then: "Couldn't you have been gentler?"

"I could," said Falsen, his voice curiously muffled, distorted, "but this has to carry conviction."

The light flashed on again.

"She's coming now," said Linda.

Together they listened to the whisper of unsteady feet on the sandy floor, together they watched the Doralan stagger round the bend of the tunnel. In her right hand she carried a pistol. She stared at the bodies of her women, whispered something, her bloodless lips scarcely moving, in her own language. Then, turning her pallid face to the two Earth people, she said, "Dead. All dead."

"Yes," said Falsen.

"But," said Prenta to Linda, "you are wounded."

"It is only a scratch," said the girl.

"Which way did it go? I could have sworn that I hit it, with my first shot. Which way did it go?"

"I think," said Falsen, "that it swam across to one of the other tunnels. I can't be sure which one. I was

too . . . busy to notice."

"Yes," Prenta said slowly, "you saved my life. I had forgotten. I must thank you."

"Skip it," Falsen told her. "Have you got any first-aid kit in those packs we left? You're in a mess, and Linda, here, is badly torn around the shoulders."

"Yes. Of course."

Together they made their way back to the lake, Prenta first of all collecting the weapons of her dead ship-mates. Slowly, with Falsen and Linda taking it in turns to assist the Doralan, they swam across the dark expanse of icy water. Then, while Falsen broke out antiseptic and dressings, Prenta got in touch with the Lady Mother on the portable radio set, announced that a helicopter was being sent at once.

As soon as the plastic "skin" that Falsen had sprayed on to the wounds of the women had set they dressed, then made their way to the tunnel entrance. The sun was not far from setting and a damp chill was in the air. In the distance they could see the glaring lights of the ship and, soaring and dipping, fast approaching, the dark, low flying shadow that was the helicopter. Prenta led the party from the aircraft into the cave, supervised the removal of the mangled bodies. A second helicopter came, bringing the Lady Mother herself. At her orders a large, metal cylinder was carried into the tunnel. At her orders the two helicopters took off hurriedly, put as

much distance as possible in as short a time as was practicable between themselves and the range of hills.

Sitting with the Lady Mother Falsen and Linda watched, as she watched—but all her attention was not on the landscape astern of them, some of it was on the timepiece at her wrist. At last she sighed and said—"Now." With the word the hills lifted—a huge mushroom of smoke and dust and rubble that climbed slowly towards, and through, the overcast. From the riven earth rose a dull, baleful glow, and a dreadful, sullen thunder caught and drove their flimsy flying machines like leaves before a gale.

And as her pilot tried to hold a steady course for the ship—"I should have liked specimens," said the Lady Mother. "But I refuse to risk the lives of my crew or"—and she smiled briefly—"my guests."

That night six more of the Doralans were killed and partly eaten.

Falsen and Linda Veerhausen were asked to the conference held by the Lady Mother in her cabin. Out of courtesy to the two castaways English was spoken, the words of any officers not conversant with the language being at once translated. Prenta's story was told and retold, discussed from all angles. Even Pondor—after all, he was animal and therefore presumably conversant with the habits of other animals—was called in, but he could do nothing but whine

about his lost mate, Kristit, a cat who, it would seem, served as a repository for all the feline virtues. The Lady Mother, her nerves frayed with strain and worry, cuffed his head and sent him squalling away.

More and more did Falsen and Linda sense the hostility of the ship's people. After all, they were from Earth, and Earth had ceded this planet to the Doralans. And it was a well-known fact that Earth was not in the habit of making free gifts. There must, said one of the officers, evidently proud of her grasp of idiom, be a catch in it somewhere. There must be a nigger in the woodpile, a fly in the ointment. Furthermore, she said, the presence of the two Earthlings had never been explained to her satisfaction. How long was it they said that they had been away from their ship? And yet, when found by the survey party, the man was clean shaven, had only begun to produce a facial growth after he had become a guest of the Doralans, whose hospitality he was no doubt abusing.

"Carlin," said the Lady Mother. "You are being insulting. Mr. Falsen and Miss Veerhausen have risked their lives in our service. I, myself, have seen Miss Veerhausen's wounds. All the same—It seems odd. But I am sure that Mr. Falsen has an explanation."

"I have, Lady Mother. I do not use a razor, I use a depilatory cream. And my last tube was finished the day

before you found us."

"Thank you. I am sure that my pharmacist will be able to make something up for you. Have you any more . . . theories, Carlin?"

"No, Gracious Lady. But —"

"But *what*?"

"I would suggest, Gracious Lady, that the disappearance of Kristit be investigated more closely."

"Rubbish, Carlin. It is obvious that whatever it was that killed our people, that attacked Mr. Falsen and Miss Veerhausen in the cave, could have swallowed a *cat* in one gulp. Anything else?"

All were silent. The Lady Mother absent-mindedly scratched Pondor's ears, looking from face to face. At last she spoke, directly to her chief officer.

"Mardee," she said, "there are one or two questions I have to ask *you*." She looked at a slip of paper in her hand. "Last night Canda and Weltin were killed. According to the watch list you gave me they should have been on duty *inside* the ship."

"That is correct, Gracious Lady."

"Then why were their bodies found *outside*?"

"The only thing I can suggest, Gracious Lady, is that they heard, as they should have heard, the noise outside and rushed down to help their comrades."

"Without sounding the alarm?"

The officer's manner was defensive. "As you know, Gracious Lady, all the

watchkeepers had written instructions, signed by yourself, to the effect that all hands must be roused at once at the first signs of anything suspicious. Canda and Weltin must have disregarded those instructions. Unfortunately we cannot deal with them as they deserve."

"They have been punished," said the Lady Mother slowly, "with even greater severity than their offense deserved." There was silence again, broken only by the purring of the big cat. Then — "As and from tonight, there will be no watches kept outside. The air lock door will be kept shut. You, Letta, will see to it that searchlights are rigged to cover all the surrounding terrain, so that an efficient lookout can be kept from Control. You, Mardee, will arrange watches, and see to it that a reliable junior officer is in charge of each. And you and I will split the night between us. And you, Pondor"—the cat stretched and yawned—"will prowl through the ship all night, in company with your mate, Tilsin. It is possible that your keen, animal senses might detect something outside the range of ours."

"Can I get some sleep now?" mewed the cat. "And will Mardee see that some saucers are left out for us?"

"All right. Don't forget to tell Tilsin, will you?"

"Can we help?" asked Falsen.

"Why not? You are guests here—but this . . . *thing* menaces you as



much as it does us." She said thoughtfully, "I'm still not happy about Canda and Weltin. I'm still not sure—"

"People do silly things," said Falsen.

"Yes. I suppose so. And it's the last silly thing that they'll do. Thank you, ladies, and you, Mr. Falsen and Miss Veerhausen. Stay with me, Mardee, and we will draw up our watch lists."

As they filed out of the room the woman Carlin fell in beside them. She said, rudely, "What do you know about the Mannschen Drive?"

"Not much," said Falsen shortly. "I didn't invent the thing."

"But you were a navigator."

"No. Second pilot. Another five years' service, and study, and school, and I'd be qualified to sit for master astronaut. And not everybody who sits passes. Come to that—even our best navigators know only how to use and to service the Drive. The actual workings of it are a mystery."

"Come to my room," said Carlin.

She led the way to her cabin. Waited until her two guests were seated on the settee, then curled up in a large, overstuffed chair. She looked, thought Falsen, like a huge, sleek, slightly overfed cat. He disliked her, and knew that she disliked him. He was rather surprised when Carlin got up, went to a locker and produced a bottle and three of the little,

spouted drinking vessels. The wine was heavy, and too sweet, and had a strong, spicy flavor that at once repelled and attracted. The second cup was much better than the first.

"When you had the accident to your Drive," said Carlin, "you said that people were—changed. In what way?"

"What way would you expect?" countered Falsen. "All sorts of odd things had happened to space-time, and there was a certain . . . reversal? No, that's not the right word. Turning inside out is near enough."

"So the Temporal Precession had no effect?"

*How much does she know?* thought Falsen. *Is she the navigator of this packet?* He said, hoping that his memory of what he had read of disasters on the interstellar tracks was accurate, "The only thing I noticed was that some of the clocks seemed to be running backwards. And the perspective of things was—wrong. And the colors. Why do you ask?"

"I have my—curiosity. After all, such a thing might happen to this ship at some time. Especially with our Earthbuilt Mark XVII unit."

"If you're so clever," said Falsen, "why don't you build your own ships instead of buying our worn-out tonnage?"

Carlin smiled cattily. "We regard our survey ships as being expendable. So when we can get cheap old crocks for the job—we do so."

"She's a better ship than any of the spacefaring boudoirs that are turned out by your yards!" flared Falsen.

"At least," said Carlin, "they don't—*slink*."

Falsen bit back the reply that he could have made so easily. He had been conscious for some time of the odor of the little cabin—a smell that made him want to bare his teeth and snarl, that roused the urge to—kill. He glanced sidewise at Linda. She was conscious of it, too—he could tell by the tenseness of the line of her jaw, by the taut skin over her cheekbones, by the subtle shifting of skin and muscle that he could feel when he laid his hand lightly on her shoulder.

He said: "Let's go, Linda. We appreciated your hospitality, Lady Carlin—until you started to become insulting."

Carlin got to her feet. She said—and Falsen could not doubt her sincerity—"I'm sorry. But there's a certain—incompatibility. After all, in spite of our outward resemblance, we are members of different races—"

*You don't know how different—* thought Falsen.

He said, "Thank you, anyhow. Come, Linda."

Outside, in the alleyway, the door shut behind them, Linda said, "*Phew!* I couldn't have stood it any longer in there. That horrid wine—and that horrid woman! Better tell that chief officer of theirs to invest in about

twenty tons of deodorant!"

"She's not the only one," said Falsen. "There're one or two of the officers and about six of the crew—But what was she driving at?"

"As she said," suggested Linda, "just curious. After all—the disasters befalling others are almost as interesting as those befalling oneself—and far less dangerous."

"She'd have found the truth even more interesting."

"If she'd believed it. These people haven't any frontiers of the dark in their Cosmos."

"I suppose not. I wonder why we should be the only ones?"

"Some accident of radiation and mutation. Perhaps even an experiment by some race before history—or a race whose history went up in flames in some catastrophe that blasted them back to first beginnings."

"I suppose you know where we are?"

"Frankly, no. I thought that you knew which way we were going. And if we didn't want any Doralans they'd be treading all over our toes—and now we do want one they've all vanished."

"If we keep going down ladders, we're bound to hit the right deck. Ah! Here's a hatch!"

"Storerooms," said the girl, half-way down the ladder. "And"—wrinkling her nose—"cats!"

"Or *cat*," amended Falsen. "One tom has a nuisance value out of all

proportion to his size. Ponder!" he called. "Ponder!"

"He'll never come to you."

"He's wise. If he did—I'd wring his neck."

"That was strong wine she gave us," said Linda thoughtfully. "Watch your step, my dear, and I'll watch mine. If we aren't careful we'll be doing something silly."

"Something moved!" snapped Falsen suddenly. "Look!"

"The storekeeper," suggested Linda, but Falsen did not hear her words. He was attacking a pile of bales and cases like a terrier at a rat hole. As the girl watched he put all his strength into pushing a huge bale

to one side, then squirmed into the aperture thus made. There was a brief scuffle, a cry of pain—and then Falsen backed out from the opening, dragging with him a limp figure. It was dressed as were the other Doralans and to outward appearances was one of them.

"Have you killed her?" asked Linda.

"Her?" demanded Falsen. "Use your senses, woman. This isn't a female."

"No . . . you're right. A stow-away?"

"Stowed away," said Falsen. "But—by whom?" He laughed. "These people with their marvelous, ma-



triarchal society! And yet one of them—perhaps even the Lady Mother herself—has brought along some company for her idle moments!”

“Are you reporting it?”

“Why, should I? I might make enemies—open enemies. No, let ’em enjoy themselves while they can. It’s no skin off our nose.”

The little Doralan moaned and stirred, opened his eyes. He stared at the two Earthlings, muttered something in his own language. He seemed to be making an appeal. Falsen said nothing in reply, made a gesture of dismissal. The stowaway scrambled to his feet, ran silently to a corner of the storeroom. He seemed to melt into a stack of crates.

“Somebody should be grateful to us,” said Linda. “But come on! We’ve still to find our way back to our own quarters.”

It was light in the big ship’s control room—light with the reflected glare from the big searchlights. All shutters around the greenhouse were down, and through them Falsen could see the featureless plain surrounding the ship, looking, in the harsh brilliance of the lamps, as though it were covered with fresh snow. Another glow, not of reflection, hung in the sky over where the Lady Mother’s bomb had destroyed the cave system. Falsen wondered what would have happened to himself and Linda if they had been there when the bomb exploded. It

was an interesting problem.

“It is very quiet,” said the Lady Mother.

Falsen agreed with her. His keen ears could hear the subdued whine of the generators that supplied the current for the searchlights, could hear—but faintly—the soft breathing of the sleepers throughout the ship. He made a mental calculation—one hundred minus sixteen makes eighty-four; plus one stowaway—eighty-five. Six on deck watch, two in the engine room, and the captain, leaves seventy-six sleepers. And Linda. *I hope*, he thought, *she’s sleeping*. Something padded almost silently along the alleyway outside the control room. Instinct made Falsen stiffen, reason told him to relax. Pondor crept in through the half open door, spat at Falsen in passing, rubbed against the Lady Mother’s legs.

“Well, cat,” she asked, “is all well?”

“I have a name,” said the animal. “I wish you’d use it.” He condescended to allow the Lady Mother to tickle his ears. Then—“All is quiet,” he said. “I left Tilsin making her rounds of the lower decks.”

Falsen, the very presence of the cat making him nervous, started to pace up and down. Prenta came in, flashed him a smile and made a report to the captain in her own language. She fell in beside Falsen, tried to match her stride to his, tried to make conversation. Falsen answered in monosylla-

bles, thought: *Was it your boy friend we found, my dear? Is this why you're being so nice to me? But I forgot, I saved your life.*

"It's too quiet—" said the Lady Mother suddenly.

Falsen stopped his nervous pacing, stood still with every sense alert. He did not join the Doralans at the windows, in their scanning of every inch of the terrain with their high-powered binoculars. But—*There is something wrong*, he thought. *Linda . . . I should have had her on watch with me. It would not have looked suspicious.* Out of the corner of his eye he saw a little light flash on among the dark instruments, dismissed it from his mind as something of no importance. But, in spite of the dismissal, its very presence was an irritation, a warning. Falsen tried to remember the layout of the controls of the City-class liners, in one of which he had once served—then suddenly realized what the little light was. He thought, *The silly little fool! She shouldn't.*

The sudden clangor of the alarms struck like a blow. The Doralans fell back from their windows, dropping their glasses with a clatter. The Lady Mother gripped Falsen's arm, cried: "Look! The air lock door is open!" The man tore his attention away from the little, betraying light, followed the Doralans as they ran from the control room.

Already the ship was in an uproar. Lights flashed on in every alleyway,

through open doors poured the crew—in night attire, half dressed, but every woman among them armed. Somebody, somewhere, was already firing at something—the vicious, sharp crackle of the energy guns was distinctly audible above the tumult of near panic.

*I must be first*, thought the man. *I must be first on the scene. Perhaps, even now, I shall not be too late.* Knocking down the little Doralans as he ran he buffeted his way through alleyways, down companionways. The air was thick with the smell of fear, of anger and, as he approached the deck where his own living quarters were situated, of blood.

Carlin was beside him, running, her cat-face almost smiling, her cat's eyes alight with excitement. Oddly, illogically, at this moment Falsen felt a feeling of kinship with the Doralan, thought:

*She's better than the others. She's not frightened.* Then he cursed her as, accidentally or by intent, she tripped him. When he scrambled to his feet the chase had surged past and over him and the alleyway was deserted. He drew his pistol then and, walking cautiously, made his way to the head of the companionway leading to the next deck—the deck on which he and Linda were living. As he walked he heard the babble of excited voices stilled by the clear, authoritative commands of the Lady Mother. He walked slowly, alert, ready to fight or

fly, descended the companionway step by wary step.

It was Prenta who met him when he was halfway down. She said, "Come quickly. But she will live, I think. She is asking for you."

"I was knocked down," said Falsen. He quickened his pace, but feigned a limp.

The crowd of Doralans parted to let Falsen through. There were bodies on the deck, which was slippery with blood. Each one had been torn and gashed and—disemboweled. Falsen shuddered. He forced himself to ignore them, walked slowly to where the girl was sprawled against the door to her own cabin with the Lady Mother and the ship's surgeon bending over her. He tripped over something, half stumbled, looked down and saw that it was Tilsin, Pondor's mate—or what was left of Tilsin. Something had torn the animal's head from its body.

"Nick," said Linda.

Her face was pale beneath the blood, and there was blood on her shoulders and down the front of her body. Falsen looked at the deep gashes and wondered how they could have been inflicted. He said, his voice unemotional, "Well?"

"She did it!" screamed Pondor. "She killed Tilsin!"

Squalling, he launched himself upon the wounded girl, his claws reaching for her eyes. The Lady Mother caught him in mid-leap, held him at arm's

length while his scrabbling hind feet tried to rend her wrists. Violently, she threw him from her. There was a dull thud as he hit the bulkhead, and then his voice was upraised again in mewling protest. "She did it. I know she did it. Kill her."

"Take him," said the Lady Mother, "and lock him up until he comes to his senses." Her voice became gentle. "How is she, Magadja?"

"She has lost some blood," said the surgeon. "But her injuries are little more than superficial." Deftly she cleaned the wounds, sprayed them over with the quick-drying plastic skin. "Can you get her moved to her cabin?" she asked.

Falsen followed the surgeon and the Lady Mother into Linda's room. He walked to her bedside, caught her limp hand in his. He felt her fear, a blind fear that almost induced a like panic in himself. He said, "Don't worry."

"Miss Veerhausen," said the Lady Mother, "I am sorry to have to question you. But this has been—dreadful. Fifteen of my people murdered in their cabins, including my chief officer, another five in the alleyways. Can you tell me what happened?"

"A . . . little," said the girl. Falsen felt her hand tense in his. "I did not sleep well. And I woke up, feeling that something was wrong. There was a strange odor in the air. I got up and went out—and something attacked me."

"What was it like?"

"I don't know. It had teeth, and claws. It was like an Earthly tiger, but not the same. It seemed to run on its hind legs only—"

"Was there more than one?"

"Yes. I'm almost sure that I saw others while I was fighting it off."

"Miss Veerhausen?" The words cracked like a whip lash. "Did you open the air lock doors?"

The girl's eyes opened wide in an amazement that, thought Falsen, must convince almost anybody. "Of course not," she said.

Prenta slipped silently into the room. "Lady Mother," she said, "there's blood on the moss under the air lock door. I followed the trail as far as I could, then it faded out. What shall we do?"

"Order out the helicopters. Go in one yourself. Fly in the direction indicated by the trail." She turned to Falsen, who felt an acute stab of pity at the sight of the pale, careworn face. "What else can we do?"

"You were a fool," said Falsen. "You tried to do too much by yourself. You could have ruined everything."

"But, Nick, I *didn't*. Oh, I did kill Tilsin—the sound of her padding up and down outside was driving me frantic. Then, while I was dealing with her, this other . . . *thing* jumped me. Luckily I was . . . prepared, so I could fight it off."

"A cross between a kangaroo and a tiger!" scoffed the man. "That's even better than your big, gray beast with the armor-plated hide! Save these tales for the Doralans."

"No," she said. "Why should I lie to—you? This planet has got dangerous beasts, after all." She started to laugh. "Funny isn't it?"

"It's not so funny. But—it suits us. Anything, everything will be blamed now on these . . . these . . . Antareans? As good a name as any. But we shall have to be careful still."

"There's somebody at the door," the girl said suddenly. "Come in!"

It was the Lady Mother. She said abruptly, "I have called the roll. I have taken account of all those killed. But, even so, there are three of my women missing."

"Could they," suggested Falsen, "have been eaten entirely?"

"I thought that myself at first. But Carlin tells me that she saw them being dragged away from the ship by the beasts that attacked. Carlin thinks that they were still living."

"But why should they take prisoners?"

"That puzzled me, too. But I have a fairly clear idea now as to what the things are really like. Funnily enough, they're remarkably similar to one of our own animals—a beast that is now extinct save for a few specimens in zoos. The *simbor*, we call it, and in its wild state it was carnivorous. And in its wild state it used to carry living

victims back to its lair for its young. It would cripple them so that they could not escape, and sometimes it would be days before they were eaten."

"There couldn't possibly be any . . . what was the name? . . . *sim-bors* here," said Falsen.

"Oh, I know, I know. But there is parallel evolution. You and I are examples of that. And, you must admit, similar habits often go with a similar external appearance."

"Could be."

"Prenta's helicopter has returned. She reports that she has seen the beasts, two of them, in a crater to the southwestward. She opened fire on them, but they bolted for cover in time. She thinks that she saw, too, one of our people—but the creatures dragged her down into a narrow opening between the rocks." She paused. "I want my three subjects back alive. And I want these bloodthirsty beasts exterminated. I'm stripping the ship, Mr. Falsen, of all hands but the merest skeleton of a watch. Both helicopters will go, and the bulk of the party will proceed on foot. You have shown your skill in the past. I should like you to lead the ground forces."

"I want to go, too," said Linda.

"But you are wounded," said the Lady Mother.

"I was," said the girl. "But you don't know just how tough we are."

"The Lady Mother bent to examine Linda's wounds, the scars of which

were visible under the transparent, plastic skin. She said, "That is remarkable. If you feel fit enough—"

"But I do. And I want my revenge."

"As you wish, then. Please report to my cabin with Mr. Falsen for instructions."

The instructions were brief and to the point. The helicopters were to guide the ground party and also to act as air cover. The ground forces were to press into every tunnel, opening immediate fire on anything and everything that moved. The ship's armorers had been working on the Doralan energy guns, had tuned them so that they were just short of being as great a danger to the marksman as to the target, so that, in fact, one sustained action would inevitably burn them out. Meanwhile, one of the helicopters would carry a bomb similar to that employed before. After the three Doralans had been rescued—or after proof positive of their deaths had been found—the bomb would be used.

The sun was already up when the two helicopters took the air, when the ground party clambered down the ladder from the after air lock to the spongy soil of the hostile planet. Carlin was in charge of the bomb-carrying aircraft, another officer, who had flown with Prenta when she discovered the lair of the Antareans, commanded the other. Prenta her-



self marched with Falsen and Linda Veerhausen.

"Tell me, Prenta," said Falsen, "how did you find the things? This crater of theirs must be out of range of our lights."

"It is. But one of the prisoners was using a pocket torch, and, as luck would have it, we saw the feeble glimmer of it. And Merru, who flew with me, had suggested that the crater—we found it on our first survey flight—might be where the things were living."

For a while they marched in silence, then Prenta said, "I saw them only by the light of our flares. But I could have sworn that they were *simbors*."

"Impossible," said Falsen. "Unless you brought them with you."

"Impossible!" snapped Prenta. Then she started to laugh. "You were joking."

"Of course. You people couldn't bring half such queer things with you as ours do."

Conversation flagged then, a fragile plant wilting in the steamy heat. The party marched on and on, possessed by a sense of urgency. Ahead of them the helicopters soared and dipped, the steady humming of their rotors hypnotic so, at the finish, the ground party marched as in a dream. Falsen was hardly interested when, at last, the flat horizon ahead was broken by a low, serrated ridge. He had literally to force himself into a state of alertness, discovered that the mere act of

drawing his pistol taxed all his reserves of will power. By his side trudged Prenta and Linda, both of them, to outward appearance at least, more than half asleep. He had to shout at them to arouse them—and they, in turn, had to bully those following into complete wakefulness.

"Tell the helicopters," Falsen ordered Prenta, "that we're having a breather before we attack. Tell them to let us know if they see any signs of life."

Prenta called her radio operator to her side, passed the orders on to her in her own language. Ahead of them the two helicopters dipped and hovered. The operator said a few words and then listened. Again, briefly, she spoke, then turned to Prenta and passed on to her what had been said by those in the aircraft.

"No signs of life or movement," reported Prenta.

"I rather think," said Falsen, "that they sleep by day."

"Never mind when *they* sleep," said Prenta. "Haven't *we* rested long enough?"

"All right, we have. Pass the word for the crater to be encircled. Tell the helicopters what we're doing."

Falsen stood and watched the little, red-cloaked women, obedient to his command, straggling out into a line that would surround the crater and all that it might contain. *I'm getting fond of the little beasts, he thought, and*

*that won't do at all.* He looked down from his superior height at Prenta, watched her face as she snapped orders, noticed the capable way in which she held the weapon that she had already drawn. He felt a sudden, strange pride, and a regret, and his active mind was already considering schemes in which marooning was an alternative to death.

"This is fun," said Linda, a bright spot of color on either cheek relieving the pallor of her face. "But I wish we could hunt them *our way*."

"What is your way?" asked Prenta. "We are under your orders, you know."

"On elephants," said Falsen quickly. "But I don't suppose that anybody has brought *them* along."

Prenta's radio operator was in touch with her similarly equipped sisters. She made a report to Prenta, who said, "The encirclement is complete."

"All right. Give the word that all weapons are to be ready. Give the word to advance."

Slowly they climbed the gentle slope, pausing to examine every boulder. There was a sudden, sharp crackle of fire to the right; and a large rock shattered and a small lizard-thing killed. A considerable area of the mosslike growth was set on fire. Falsen ordered greater caution—wondering, as he did so, if he were making a wise command. This was war, he told himself, and the old principle of

firing first and asking questions afterwards still held good. He thought, *I'm a fool. I should be in one of those helicopters, running the show from up top. But it wouldn't be the same.*

Falsen's sector of the line topped the crater rim—paused for a minute until the others had done so. Falsen surveyed the shallow depression, the saucer shaped hollow, his eye noting the boulders that would serve as cover, the rocks that might mask the entrances of caves. He saw a splash of scarlet on the gray ground, decided that it must be the cloak of one of those taken by the beasts. Opposite him, from the other side of the crater, somebody fired. The beam of the weapon was barely visible—but the flare of the disintegrating boulder was blinding. The sharp crackle of the bolt was followed by sudden thunder—and by an almost human scream. From where the boulder had been something ran, something that progressed in almost kangaroolike hops. Yet, Falsen decided as he saw it over the sights of his gun, it had a leonine head and body.

"You missed," said Linda. "We all missed."

Falsen blinked his smarting eyes. "Which way did it go?"

"Between those rocks."

"Must be a cave. Anything from the helicopters, Prenta?"

"Yes. They reported the thing after we'd all shot at it."

"What now?" asked Linda.



"We continue to advance. Tell them, Prenta, to post a strong guard over every cave mouth, every possible hole. After we've got them all located we call for volunteers."

The going was hard—harder still when one hand was needed to grip a weapon, when undivided attention could not be given to the secure placing of feet. At the finish about two

thirds of Falsen's force met in the center of the crater—the rest having been left at various points to watch the mouths of caves and tunnels. And here, almost equidistant from all points of the crater rim, was the most promising cave of all, a tunnel sloping down into the blackness at not too steep an angle, an almost horizontal shaft floored with a damp pumice dust, on the surface of which were the almost human footprints of the Doralans and other marks, larger, like those of an Earthly lion.

Already Prenta held a torch in her left hand, her pistol ready in her right. Already the Doralans were quarreling among themselves as to whom should descend to the rescue of their shipmates. But Falsen was not happy about it—neither, he saw and sensed, was Linda. It was all too easy, somehow. There was a trap—he was sure of that. A trap baited with footprints, with a rag of scarlet cloak. And there were marks just inside the tunnel entrance that, to his acute senses, begged for investigation.

He said to Prenta: "Get that boulder shifted. I think it will roll. I know it will."

Four of the Doralans laid hands on the rock, contrived to get their fingers into inequalities of its surface. It was stubborn at first, and then it came easily. Behind it was a smaller cave—a mere niche, rather—and in it were three huddled bodies, the three missing Doralans. Two of them were

fully clad, the third was naked. They were alive.

Willing hands lifted them, carried them out to the open air. They seemed too dazed to speak. Prenta stilled the excited babble of the rescue party with one sharp order, then turned to Falsen. She said, "We've done what we set out to do. The bomb?"

"Those were the Lady Mother's orders."

The bomb-carrying helicopter was already dropping, the roar of its rotors making further conversation impossible. Looking up, Falsen saw the woman Carlin peering from the cabin of the thing, decided, when he saw the expression of triumph on her face, that the three rescued Doralans must be especial friends of hers. With a creaking of landing gear the helicopter grounded. The cabin door opened. Moving swiftly and efficiently the aircraft's crew passed the three captives into their ship. The rotors started to spin again, the ship to lift.

"What about the bomb, Carlin?" shouted Falsen.

"You shall have it!" she screamed in reply.

From the open cabin door toppled the shining metal cylinder, striking the rocky ground with a dull *clang*, rolling a few feet before it fetched up against a boulder.

As the helicopter drifted overhead Falsen turned to Linda and bellowed, "Jump!" At the very peak of his own leap his outstretched fingers caught

the horizontal struts of the undercarriage, caught and held. For long seconds he hung there, his body buffeted by the slipstream; dimly he realized that Linda was beside him. Working slowly, carefully, he succeeded in transferring the grip of one of his hands to a vertical member of the undercarriage; first one hand, and then the other, and then he was able to pull himself up until he was sitting, insecurely, on the cross strut. Using his right hand only he got a firm hold of Linda, pulled her up until she was seated beside him.

They looked down. Below them, in the crater, the scarlet-clad Doralans were getting out, and fast. Only one of them had not joined the general panic, and that one was Prenta. Grimly, intently, she was working at the gleaming cylinder left by Carlin, worrying at it like some small, conscientious terrier at a rat hole. Whether to defuse, whether to procure a premature burst and thus involve the helicopter and its crew in the explosion, Falsen never found out.

There was the other helicopter still to be reckoned with. It came dropping down on Carlin's ship like a noisy falcon, all its guns spitting bolts of energy. There was the smell of ozone, the acrid stink of hot metal. But Carlin did not falter in her flight, held the nose of her craft steady on that point of the horizon beyond which lay the ship. And then, sud-

denly, one of her guns began to speak—not a mere projector of electrical forces, all but ineffective against a metal hull, but an old-fashioned weapon firing solid slugs of metal. Abruptly the other aircraft fell within Falsen's field of view, and he saw that the shining aluminium of its hull was perforated, and as he watched a great piece broke off its whirling vanes and gyrated Earthward. And with the shattering of its rotor the helicopter faltered, faltered and fell, following its own wreckage in unsteady, wavering descent, accelerating wildly and suddenly towards the end so that where it fell there was a sudden geyser of water and mud—followed, after a moment, by a second, high climbing geyser of flame and steam.

Linda Veerhausen clutched Falsen's arm, her nails digging painfully into his flesh. She screamed, trying to make herself heard above the slipstream, the roaring rotors, "What . . . what are they doing?"

"I . . . I don't . . . know. Mutiny—"

He looked astern, to where the low crater had already dipped beneath the horizon. He saw the flash, the beginnings of the flash, and shut his eyes. When he opened them there was the climbing column of flame-shot smoke, reaching up to and through the overcast. Then the wind came—the hot, searing wind that lifted the helicopter like a toy, that

drove the aircraft before it like a dead leaf before an autumnal gale. He clung to his strut with one hand, kept his other arm tightly around the girl's waist. With the wind came the thunder, peal after dreadful peal, beating at them like blows from a giant's hammer, threatening to tear their desperate grasp from the frail construction of light metal that still, miraculously, kept its course and even keel.

Prenta must be dead, thought Falsen numbly. Prenta, and all her people. He was sorry, in his way—although, he told himself, this woman Carlin had, by her mutiny, made things so much easier for himself and Linda. He did not fear the energy guns of the Doralans, although their possession and use of old-fashioned machine guns caused him a certain degree of apprehension. But, he told himself, they would never have the right ammunition for them. The need for ammunition of that kind could never exist, possibly, in more than one world of the galaxy.

Astern the column of smoke still stood high and dreadful in the sky but, save for a certain hot, gusty turbulence the air was almost calm again, and the sullen thunders of the bomb were now no more than a distant, forbidding rumbling. And ahead the ship lifted above the horizon line—a tower of dull-gleaming metal, the wandering home of a new race, the

great, sky-faring argosy that would bear them to the last frontier of the dark. A fortress it was, too—a fortress of the snug, secure interstellar civilization, a fortress that had fallen, or was soon to fall, by the treachery of its own people.

The helicopter was flying lower now, losing altitude steadily, barely skimming, it seemed, the mossy surface of the Antarean planet, the scum covered surface of the stagnant pools. Falsen noticed this, shouted to Linda, "We shall have to drop!"

"Why?"

"Carlin's bound to find us when she lands! We'll approach the ship on foot!"

Swiftly they approached one of the pools—almost a lake it was, hundreds of feet across. Falsen waited until the helicopter was almost above its nearer shore, then wriggled down from his sitting posture until he was hanging, once more, by his hands. He waited until the girl had followed his example, then shouted, "*Now!*"

Together they let go, together they fell, hitting the water with barely a splash, sliding deep, deep down below its surface. Falsen felt his feet touch soft mud, kicked out and, long seconds later, broke through to the light and air. He was afraid that Carlin or one of her women would have seen him, would have brought the aircraft back to deal with the two survivors of the massacre in the crater but, he was relieved to see, the helicopter still

flew onward heedlessly and straight for the ship.

There was a splash beside him, a splash and a splutter as Linda broke surface. She shook her head to throw the wet hair away from her eyes, gasped, "What now?"

Falsen tread water. He said, speaking jerkily, "We'll swim for the shore—this way. If they *do* come back for us, we can dive."

Side by side they struck out, swimming in a silence broken only by the splashing of their passage and their sharp breathing. Side by side they reached the lake edge, the shore that was no more than the gradual, unpleasant merging of land and water. Side by side they scrambled out and stood, muddy and dripping, regarding each other.

"There will only be a few of them," said Linda at last.

"Yes. We must be ready to fight—any way."

In silence they stripped. Linda Veerhausen made as though to resume her holstered belt, then thought better of it. She took the pistol from the holster instead, held it ready in her right hand. Falsen did likewise. Naked and muddy, weapons ready, they trudged slowly and warily over the spongy, mossy terrain, through the gathering night to the bright lamps that marked the ship.

Carlin had no guards out, although there was one member of the survey

ship's complement who sat, miserable and terrified in the mud, staring towards the bright lights that marked what had been, what never again would be, his home. Linda pounced upon him before he was aware of their coming, held him high, squeezing him with deliberate cruelty.

Pondor spat and scratched, cursed the girl in the Doralan tongue, then lapsed into English. He said, his mewling voice little more than a whimper, "They are killing, killing—They have killed the Lady Mother."

Falsen felt rage surge up within him. He had known that he himself must, at the end, slay the foreign woman, the kindly, tolerant captain of the Doralan ship—but he hated Carlin for having done what he himself could not have escaped doing. *Besides*, he told himself, *I'm different. Carlin is not.* He said, his voice cold, "We shall kill them."

"Be careful!" squealed Pondor, "they are—"

His voice died in a choking gurgle as Linda's teeth found his throat. The girl threw the little, lifeless body to one side.

"You shouldn't have done that," said Falsen sharply. "He was trying to warn us of something."

"I hated the beast, anyhow. As well kill him now as later."

It was dark now, but the glaring lights from the ship threw every prominent object into sharp relief. Falsen realized that he was a prominent ob-

ject, that both he and the girl were prominent objects, that their pale, naked skins must stand out against the surrounding grayness as though luminous. He said, "We're too conspicuous. We shall have to change."

"What about our pistols?"

"Carry them in our mouths."

He watched her, watched the white flesh creep and shift, darken and change. He felt the pain that was not a pain, the sense of freedom that was, at the same time, a sense of bondage. He dropped his pistol when he could hold it no longer, then picked it up between his teeth. Crouching low, moving swiftly and silently, a gray shadow among the gray shadows, he led the way to the square of yellow light that was the air lock door. The smell of warm machinery, of lifeless, inanimate metal, was strong and repugnant in his nostrils, and the smell of warm flesh and blood was strong—but not repugnant. The last few yards of the journey he made on his belly and then, only a foot or so from the ladder into the ship, he crouched motionless, listening and—feeling.

Carlin, he thought, must be lax. There was nobody on guard in the air lock. She must be certain that he and Linda had perished in the explosion. But what of the cat-things, the carnivorous beasts indigenous to this planet whose bloody ravages had given Carlin the opportunity for her treachery? Perhaps, he thought, with hope and disappointment, they've all killed

each other.

Once again the sense of loss and gain, the queer, painful ecstasy—and Falsen stood erect, picked up the pistol that had fallen from his mouth. He looked around, saw that the girl had followed his example. Swiftly, silently, he climbed the ladder to the air lock door, clambered into the ship. The air lock itself was, as he had known it would be, deserted—and so was the alleyway beyond it—and the companionway leading from it to the next deck above. And yet the ship was not—dead. It pulsed with unseen life, with unseen, inimical life, spoke vaguely yet threateningly of the menace that lay just beyond that bend of the alleyway, that lurked just at the top of this companionway. Linda was beginning to whimper softly, but Falsen said, "We must go on. We *must* go on. After all—*they* can't hurt us."

And so they climbed, deck after deck, alleyway after alleyway, smelling, now and again, the death that had come to those loyal to the Lady Mother—yet finding nowhere any other evidence of death, no bloodstains, no charred and contorted bodies, nothing but the dead, yet alive, ominous emptiness.

And so they climbed, deck after deck, until at last they stood in the alleyway outside what had been the captain's quarters. From behind the closed door they heard voices—low, indistinct, speaking in the Doralan



language. Pistols ready, the two Earthlings approached the door, their bare feet silent on the soft, plastic deck covering, hoping that the automatic control of the door was still working, that Carlin, hearing them knock, would absent-mindedly utter the words that would cause it to open.

Falsen knocked—and a voice inside, Carlin's, said the words. The door opened.

"I could kill you now," said Falsen, his pistol covering the group behind and around the big desk. "I could kill you now—and I shall kill you later. But I want you to know who is killing you, and why. It should help to make your last moments uneasier."

He looked at the group behind and around the big desk—at Carlin lolling at ease, smoothly insolent even now, at the other five women, at the six men, one of whom was the stowaway found by himself and Linda. And he hated them, the fat, satisfied sleekness of them, and the treachery that had brought them to where they now sat and stood, masters and mistresses of a huge, sky-cleaving ship in which they could escape, in which they would have escaped had it not been for the intervention of the man and woman from Earth, the justice of their kind.

"You," said Carlin, "are as bad as we."

"No." snarled Falsen. "We should never have killed the Lady Mother. We should never have murdered our shipmates with a bomb."

"You might not have done so. But could you answer for your . . . companion?"

"So you know?"

"So we know—what? All right, then. We aren't all fools, Mr. Falsen. We aren't all like our late, sorely lamented Lady Mother. We know your language, we read your books. We learn of your rather intriguing legends. And we know, as you know, that the Drive does queer things to Time as well as to Space, and that if there is a tendency towards atavism—It was Pondor who put me on the right track. He told the Lady Mother of his suspicions at first—but she, poor fool, would not believe him. So he came squealing to me. I didn't believe him either—officially."

"Believe *what*?" demanded Falsen, his grip tightening on his pistol. He felt that things were going wrong, that this little group of Doralans, regarding him steadily with their big, almost luminous eyes, was playing with him. His gaze flickered to Linda, standing close beside him. He noticed the white tautness of the knuckles of her pistol hand, sensed the unease of her. *Shoot!* screamed a voice in his brain. *Shoot, and get it over with.*

"You were marooned, of course," went on Carlin, "from your ship, or ships. It doesn't matter. They should have killed you. But perhaps they couldn't. I'm rather intrigued to see that you survived the bomb. But we didn't expect you here so soon."

"We came back with you," Falsen told her. "Riding the undercarriage of your helicopter."

"Indeed? I had assumed that you had lost your clothing in the blast."

"We took off our clothing," snarled Falsen, "so that we could—fight! Just as we did the first time, in the caves."

"Oh? So it *was* you. An almost masterly piece of planning that—especially making sure that there was one survivor of our people to tell the tale. You know, Falsen, we could almost respect you."

*Shoot!* screamed the voice in his brain. *Shoot!*

The hand holding the pistol had dropped slightly. He raised it, pointing the muzzle squarely at Carlin. He was about to fire when, "Don't," said Linda. "I want her, the other way."

Carlin smiled. "Yours is the dominant sex," she said. "Why don't you smack her down? You know," she went on, "we've found the pair of you most useful. Your activities served to lay a most confusing smoke screen. And now the ship is ours."

"*Was* yours," corrected Falsen. "Anyhow, just what did you intend doing with her?"

"There are worlds," said Carlin, "out towards the Rim. Wild worlds that will not be colonized for generations yet. Worlds where we"—and her voice caressed all those standing around her—"can lead the kind of life that we were meant to lead."

"And that," said Falsen, "is the very reason why *we* are taking your ship."

He stared at the hateful face before him—the grave, unsmiling cat's face, the big, unwinking eyes. His thumb pressed the firing stud of the pistol. The crackling bolt leaped out, played briefly over Carlin, then passed on to the Doralan at her left hand, paused and passed on, paused and passed on. At his side Linda was firing—first at Carlin, then at the people on her right. With a thud the big desk burst into flames, flared briefly, smoldered redly and smokily. The air stank of ozone, of charred wood and fabric, scorched paint—

Through the acrid fumes he stared at the hateful face before him—the grave, unsmiling cat's face, the big, unwinking eyes.

"You never bothered to learn our language, did you?" asked Carlin. "And if you had, you'd never have bothered to read our books, to study our history and mythology." She smiled briefly, showing very white teeth. "I must admit that, luckily for us, our people haven't been quite so quick on the uptake as yours. A certain effect of the Interstellar Drive, of its temporal precession, has, so far, escaped their notice. They do not know, as your authorities know, as *we* know, how short a way we have come from the frontier of the dark—"

Falsen kept a tight grip on his use-

less weapon. "I don't understand," he said, understanding only too well, the last pieces of the jigsaw puzzle falling into place, with inexorable logic, in his mind. "I don't understand."

"But you do," said Carlin. "You must." Her little, pointed red tongue flickered out between her red lips, flickered briefly over her lips. She said, "I am glad you came. We are—enjoying this."

She gave a brief order to her people, two of whom, a man and a woman, cast aside the scorched and still smoldering remnants of their clothing. With fascinated, horrified eyes Falsen and Linda Veerhausen watched them, watched the firm, golden flesh creep and shift and change, watched the terrifying metamorphosis of humanoid into *simbor*. Standing erect, the tiger-like animals snarled at them wordlessly, extended the long, razor-sharp claws of their fore paws. Snarling, Falsen hurled his pistol at one of them. The beast evaded the missile easily, then fell into a crouch preparatory for the killing spring.

Falsen snarled back at the *simbor*,

and by his side the girl snarled, too. He fell to all fours as he changed, as he sloughed off the remaining shreds of his humanity. *At least*, he thought, *it will be a good fight. And we might even—who knows?—win after all. They're only—cats.* He was aware of Linda beside him, changed too, the fur of her body erect and bristling, the lips drawn back from the sharp teeth as she growled deeply and ominously in her throat.

Carlin chuckled. "Yes," she said, "it would have been a good fight, and I should have liked to have watched it, even to have taken part in it. But I have so few, Falsen, with whom to start my colony."

Her hand came up from beneath the smoking ruins of the desk holding a pistol—not one of the energy guns, but a huge, old-fashioned weapon that could well have come from some museum. She said, "Luckily the cartridges didn't explode—" Then, as she fired, "Silver bullets, of course."

The larger of the two werewolves died scabbling vainly at the door. The other, his mate, was struck down in mid-leap.

THE END



*(Continued from page 7)*

decent woman will have anything to do with sex—which is somewhat peculiar in view of the continuation of the human race. Necessarily, all decent women, under that edict, belong to an extinct species. And equally, all nonspeculative scientists belong to a group that produces nothing new.

Hm-m-m—wonder if this could, by any chance, have anything to do with the observed fact that all major scientific progress stems from young men under thirty-five, and mostly from men under thirty? Newton did all his great work well before his thirtieth birthday!

In any case, the ban on speculation has produced the interesting result that, since we don't officially admit we do it, we haven't studied the processes involved carefully. Science fiction is about the only public medium of speculation allowed a professional scientist, and all too many scientists still feel that even science-fiction speculation is somehow improper.

I'll agree that science fiction is a thoroughly inadequate medium; I cannot publish a highly interesting and intelligent speculation, no matter how sound, unless it is wrapped up in a reasonably acceptable story. And I can't print a really fine story, if it doesn't have sound speculation in it. The top science fiction requires that the author be an excellent writer—a rare talent in itself—and also an excellent speculative scientist. Now since

an excellent scientist is not necessarily an excellent speculator, and high-powered speculators aren't necessarily scientifically competent, *three* rare talents must be combined to produce top-flight science fiction. I feel it's fair, therefore, to say that science fiction is the most difficult of all literatures to write.

Evidently, a field that requires such a combination of abilities is not the ideal medium for expression of the vitally needed scientific speculation. The society badly needs a Society of Speculative Science, and that Society should support a Journal of Speculative Science, in which the first task would be working out the Laws of Speculation!

Some while back I ran a "Puzzle for Thinkers" concerning the statement "It's extremely dangerous to bring two pieces of the same metal together; sometimes they explode with appalling violence." Essentially, the reason that statement was so extremely difficult to analyze for error is that it is, actually, a false speculation derived from valid observation. Since no one has ever worked out the laws of speculative thinking, no rules of thinking adequate to dissect and scotch that false implication have ever been developed.

That our speculative methods are inadequate both in lacking method and in lacking quantity, can be shown quite readily. It's been overlooked somewhat that Fairy Stories are a member of the same educational group

as Aesop's Fables—they're valid philosophy of a speculative type. The usual Three Wishes tales were sound example-teachings for children, of the necessity for Step Two above there. The thoughtless grantee of the Three Wishes usually wound up where he started, or worse off than he started, because he failed to carry out Step Two—Speculation of Value. He wished without considering, speculating, on the consequences, both good and bad, of the use of his wish.

Pandora's troubles stemmed from inadequate understanding of the consequences of her opening the box.

Our society finds itself in a first-rate mess from inadequate speculation on the consequences of the wish for a Magic Weapon that would wipe out our enemies at a single blow. By following the speculation of method, theory, experiment, experimental model, and production steps through, we achieved precisely what we wished for—a weapon that would flatten a city at a single blow.

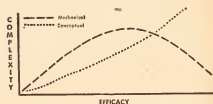
Now, like the thoughtless grantee of Three Wishes, a lot of equally thoughtless wishers are trying to un-wish it. They want to stuff it back in the box.

I earnestly suggest that we take a look at what really caused the trouble; not having the magical three wishes, we can't un-wish it.

It's not the Magic Weapon that caused the trouble; it's the failure to admit speculation openly into our society, and work out the essential laws

of speculation. And our lack of understanding of the methodology of speculation is appalling.

Consider this: It has been shown by considerable research that there is a definite curve of development followed by any technological device. The airplane, the automobile, the radio all follow the same general pattern, as shown on the following curve:



As time and research continue, the device becomes more and more efficacious, and at first becomes increasingly complex both in mechanism and in concept. Eventually, the mechanical complexity levels off, then begins to decline, while the conceptual complexity increases.

Now evidently, we could extend this curve until the mechanical curve again intersects the zero axis on the right-hand side, indicating a device of zero mechanical complexity, high efficacy, and great conceptual intricacy. Since ideas don't wear out, we would then have a perfect machine having no material parts, and nothing but an everlasting idea, and one having immense efficiency.

This, evidently, must be what is known as a "magical enchantment," and accounts for the great power dis-

played by "charms" or "talisman" devices.

All right, so the speculation sounds cockeyed—as cockeyed as the statement about bringing two pieces of metal together. What law of speculation does it violate? Can you *prove* that the speculation is invalid? Are you, then, actually sure it is? It is a fact, and a recognized fact, that the best design is the one which incorporates the minimum mechanical complexity, and the maximum of engineering thought and design, yielding maximum efficiency with minimal mechanism. What, if anything, is wrong with the idea of reducing the mechanical design to zero? Then if reducing it to zero is wrong, what is the actual attainable minimum? And if there is a theoretically attainable minimum, it probably means that there is, somewhere, an optimum compromise between theoretical attainable minimum and engineering practicality—the balance between the mechanism that would be pure-concept and the mechanism of pure-machine. But what are the Laws of Speculation by which we can determine it?

It's worth pointing out, too, that the only thing wrong with a paranoid psychotic is that his methods of speculating are wrong—and nobody knows enough about the laws of speculation to be able to help him. A paranoid psychotic frequently shows a devastating and most discouraging ability to argue far more logically than the psychiatrist

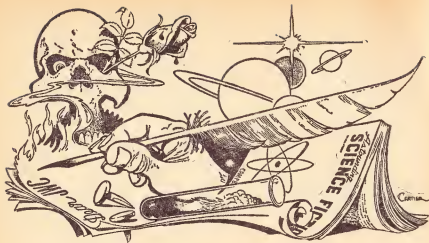
would like. His ability to carry on formal logical reasoning is perfect and irrefutable. The trouble is, he's basing all his logic on the Proposition that "Everybody is against me"—and nobody knows enough about the laws of speculation and inductive thinking to be able to show him why his postulate is wrong.

Every single one of us has his own mental quirks. We've all been doing perfectly logical thinking stemming from postulates that aren't quite correct, in one way or another. And whether it's in science or in ordinary daily living, we are always, inevitably, forced to do some serious speculating to reach a conclusion before we can do logical thinking *from* that conclusion.

You may have an idea that you can defend with perfect logic, and demonstrate with scientific experiment, mathematical calculation, and the whole paraphernalia of the Scientific Method. It's a good, useful, and valuable idea. But Man, think how valuable it would be to be able to explain *how you arrived at the idea*, instead of merely being able to demonstrate that the idea is valid! Then you'd be able to use the idea-generating technique consciously, knowingly, to solve more problems in a hurry!

The first job of a Society of Speculative Science, evidently, would be to speculate on what the laws of speculation actually are!

THE EDITOR.



## BRASS TACKS

Dear Mr. Campbell:

Mr. Coupling's article "Don't Write: Telegraph!" in the March ASF was quite intriguing to us communicators. I checked it closely for errors but have to admit I can't find any. I seem to recall that someone said there was a limit to the narrowness of a beam projected from a parabolic reflector, due to the edge-effect of the reflecting mechanism, but since I can't quote my source I won't press the point. It shouldn't make much difference in interplanetary communications anyway since the powers available are already many times the minimums discussed by Mr. Coupling, and it is doubtful anyone would want to try interstellar communications con-

sidering the time element involved.

I think much interesting discussion material can be had by applying earth-bound systems and principles to their interplanetary counterparts. For instance, I am presently on duty with the Air Rescue Service and my thoughts naturally turn to the problems which will be encountered in the, no doubt already planned, Rocket Rescue Service.

The most difficult thing we have to do today in helping a distressed aircraft is to find it. After that, it's routine. The problem is big enough when we know approximately where the aircraft is and only have to search in two dimensions, but think what a search for a disabled rocket will be like!

Assuming that the rocket's communications system is out, and a simple radio fix is impossible, we would have to search through many millions of cubic miles of ether to find the vessel.

It seems to me that the only way to make a rocket-rescue mission practical is to use a continuously fixing radio direction finding facility. A microwave DF system will probably be used since we cannot assume that radar systems will be developed that can track a small moving body for millions of miles. It could happen, but the microwave DF is already practical.

The rocket commander would have to be instructed to cut all power in the event that the communications system on board failed at the same time the rocket was out of control. Since the rocket's direction and velocity would have been automatically plotted, and since the rocket would continue to move on a straight line after the power was cut, an intercept with a rescue rocket shouldn't be difficult. However, if the rocket were out of control and the communications system went out with power on too, then a search would be useless as there would be just too much territory to cover.

Another idea: the rocket's radio, which puts out a continuous radio signal for plotting purposes, could be also a telemetering system which allows the station on the ground to monitor the functioning of the rocket's drive and control systems. The ground

station would know the condition of the rocket at any second and in the event that some disaster occurred, the conventional distress signals would not even be necessary.

Parachutes, as used in conventional aircraft, will have a counterpart in even the earliest interplanetary rockets, though the "lifeboat"—smaller rockets inside the large one—does not appear to be at all practical. All that is needed is an air-tight and pressure-proof suit with a small automatic radio transmitter. When the passengers evacuate the rocket the transmitter will radiate on a distress frequency and, assuming enough oxygen is supplied to keep the person alive for a few hours, an interception and rescue would be quite routine even though the passengers were widely dispersed.

Since time will be a big factor, I believe that rescue rockets will be dispersed along the run in much the same way that sea vessels are permanently stationed between the west coast of the United States and Hawaii. The Civil Rocketry Authority will no doubt make sure that the minimum allowable oxygen carried in a rocket "parachute" is amply sufficient for the nearest rescue rocket to effect a rescue.

In view of the fact that the Earth-Mars run is quite free of mountains and bad weather, I think the Rocket Rescue Service of tomorrow will have a much simpler job than the Air



Rescue Service of today!—Lt. Frank R. Williams.

*The bad feature of those mountains on the Earth-Mars run is that they move so fast, though!*

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Dear Mr. Campbell:

Let me speak to Mr. Hubler, please.

Come now, Mr. Hubler. Come away from the "scientists are smart—scientists are stupid" controversy. Don't you see that you have been confusing knowledge with wisdom again? Now surely you know the terms are not synonymous—perhaps mutually antagonistic in fact. Perhaps there is a law which says the greater a man's ability to absorb knowledge, the less his capacity for wisdom.

Or are you getting mixed up in the old I.Q. fallacy again? Don't you remember how this I.Q. measurement game began? Let's review it.

A psychologist, feeling most insecure, rejected, and therefore compelled to defend his ego—it had to be an expression of ego, you know—said, "I am a very superior person. Of that much I am certain. Now in what manner am I superior? Well, there is a certain type of puzzle I can solve faster than others; and there is a type of error and fallacy I can spot more easily—oh, I am very skilled in seeing the errors and fallacies of others.

"Therefore, I shall construct a pattern of my superiority. To those who

can exactly match that specific pattern, to the extent they can, I shall concede them grades of intelligence also. These will be few. Those who cannot match my pattern, I shall call stupid. And these shall be many."

So he did. And he looked upon his work and he found it superior! And he was blinded by the radiance of his own brilliance, so that he could not look about him and see that there were other forms of intelligence which could not be measured by his pattern.

There was the inarticulate and slow thinking clod who could fashion a thing of exquisite beauty between blunt fingers. There was the rabble rouser who could make an audience of otherwise sensible people jump through hoops in a frenzy. And the plane stunt racer who could make a thing of machinery come alive in three dimensions. And the wise old voodoo woman who conjured up forces to come alive in four dimensions. And on and on. These were things the psychologist could not do, therefore they did not count.

There was a dozen, a hundred, a thousand kinds of intelligence. But being different from his own kind, and therefore unflattering to his own ego, the psychologist could not admit them—and would have been unable to measure them anyway since he did not participate in them.

Come away, Mr. Hubler. Allow the scientist his puzzle solving skill. That is why he is a scientist instead of an

artist, a politician, a hot-rod racer, a witch doctor. Be bigger than the psychologist—allow him his certain kind of I.Q. Come away—bigotry is catching.

Now you take my brand of intelligence, for instance. There we really do have something superior. Now let me tell you—Mark Clifton, 1905 Havemeyer Lane, Redondo Beach, California.

*Said the liver to the muscle, "YOU aren't important; all you do is use up the food I prepare." And presently the organism—including the liver—died of paralysis.*

Dear Campbell:

My good friend Willy Ley has fallen smack into the trap I rather naughtily set—though I didn't bait it for him and am somewhat distressed by the result! When saying that I knew no British observer who believed in the meteor theory of lunar craters, I refrained from adding that I knew none who believed in the volcanic theory either. So Willy's demolition of this completely obsolete hypothesis is a little late in the day. . . .

Let me quote from a recent paper by the Secretary of the Lunar Section of the British Astronomical Association—with which is associated most of the world's leading practical observers, including Dr. Walter Haas' important group in the United States:

## S-F Book List

WITH science fiction books being published in ever-increasing numbers these days, yesterday's brand-new sensation is likely to be today's forgotten dust-catcher. But that's not at all the case with the s-f novels brought out by Simon and Schuster in the past few years. Even the two modern masterpieces that led off the list—van Vogt's imaginative *The World of A*, and Williamson's gripping *The Humanoids*—are still in demand, and still available (although only limited quantities remain).

If any of these titles are missing from your s-f collection, use the coupon below to fill the gaps:

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"I do not know of any practical lunar observer who has any use for the meteoric theory today . . . it is as untenable as Nasmyth and Carpenter's volcanic fountain. We know a few meteor craters on Earth . . . but these objects are no more like lunar craters than are the cones of Vesuvius."

In the event that there's anyone besides Willy Ley who still believes in the meteor theory I'd like to make the following points:

1. The crater Wargentín has filled up to the brim—presumably with lava—forming a flat plateau fifty-six miles wide, standing high above the surrounding terrain. Clearly igneous forces are involved here—and if you have to bring them in, why bother about meteors?

2. Craters are not randomly distributed over the lunar surface: huge areas are relatively free from them. They also have a remarkable tendency to occur in bands running north-south. Turn a map of the Moon sideways and see what I mean. It would take mighty intelligent meteors to produce these effects.

3. The existence of interlocked crater chains, clearly following some line of weakness, often not a straight one, is absolutely fatal to any impact hypothesis. The best example is the Hyginus cleft.

After all this, how were lunar craters formed? Don't ask me—I wasn't there. But I'd point out that the clas-

sic modern—and American!—book on the subject, Spurr's "Geology Applied to Selenology" gives a reasonably satisfactory explanation of all lunar formations from internal, igneous causes.

Finally, I'll back-pedal a bit. There must be *some* meteor craters on the Moon—perhaps quite a few of the smaller, shallow ones. And I must confess that I've a horrible feeling that when we're actually standing inside the wall of Plato, we'll still be arguing about what caused it—Arthur C. Clarke.

*When we get up there, and stake out our claims, maybe we'll find the British sector full of non-meteoritic craters, and the American sector covered with meteor splashes.*

---

Dear Mr. Campbell:

Congratulations on your article "Social Code." The congrats are especially for *mentioning* the subject. Heretofore, I hadn't thought anybody realized that such a multi-standard social system actually exists. At least I never heard it mentioned.

Reminds me of the story of the father and son and their horse, which they had just purchased, and were leading home:

At first the father and son walked, leading the horse, but in the first village through which they passed the villagers loudly declared that the two

were fools for walking, when they had a horse and could ride. So, upon entering the next village, the father and son climbed onto the horse and rode. But here the villagers met them with scorn and recriminations. "What cruel fools," they said, "to burden that poor old horse with two riders!" And the unhappy pair got out of town none too soon.

At the next village, the father put his son onto the horse and walked, leading the horse. But at this town, the two were loudly berated by angry townspeople. "Look," they jeered, "that healthy young lad rides, while his poor old father must walk! They must be fools!"

Through the next village the boy walked, while his father rode the horse. "What fools!" the villagers cried. "A grown man rides, while his poor little child is forced to walk on the dusty road!"

Through the next town the father and son walked, carrying between them a heavy pole from which the horse was slung, its feet tied together.

"Why do you carry the horse?" the father was asked.

"Why," replied the man, "the poor horse is a fool and does not know how to walk!"

Which is a good example of the variations to be found in social codes.

What wonder that our mental institutions are crowded with poor souls who could not cope with the divergent fluctuations of their local social pat-

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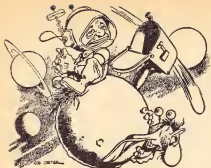
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Imagine how it would be to have a cut-and-dried rule of social conduct for every situation—every phase of living from birth 'till death. It would be a simple matter to weed out and eliminate the nonconformists—I like to think of myself as being one—insane—Who is to say who is sane?—and criminals.

We are fortunate, however, that these discursive patterns do exist, for what a monotonous drudge living would become without them! And for those who scorn convention, the aspect would be quite unbearable. Result: More crime; more suicides, more mental applectarts upset.

But wait—Here we have mental cases in either direction! Which means, simply, that we will need mental institutions regardless of the social set-up. (At least until something can be done to rid the mentally ill of their dominating aberrations. But please—no analogues!)

I doubt that you will receive an effective challenge to the proposition of defining our sociocultural pattern (s), but it does amplify a point: that the inadequacies of psychiatry and symbolic logic are unavoidable.—Philip F. Paige, 2042 Berteau Avenue, Chicago 18, Illinois.

*That conclusion is wrong. Once you accept that a problem can't be solved, you cease trying to solve it—and that proves you were right in saying it was*

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*insoluble, because, of course, it never will get solved that way!*

Dear Mr. Campbell:

THE FANTASY VETERANS ASSOCIATION is now engaged in sending packages of s-f magazines, including Astounding Science Fiction, to science-fiction fans stationed overseas with the United States Armed Forces. These fans, in many cases, cannot obtain copies of their favorite magazines in any other manner.

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We would also appreciate being sent the address of any overseas fan of whom your readers may know, who might like to receive magazines from us.

Funds for this operation are obtained from voluntary donations, and from the proceeds of the auctions held at our Annual Conventions, the next of which will be held on Sunday, April 19, 1953, at Werdermann's Hall, Third Avenue at East 16th Street, New York City.—Ray Van Houten.

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## "STURM UND DRANG"

It is by this time no news that the science fiction movement has spawned as remarkable a fan-response as we have seen in our time. In the memoirs of fandom which Sam Moskowitz has been writing for *Fantasy Commentator* under the title, "The Immortal Storm," and which is now separately published in mimeographed form (Henry W. Burwell, Jr., 459 Sterling Street, N. E., Atlanta, Georgia—\$2.00), we see one man's view of this process from the inside of one of its most fertile incubators. The story, by the way, is brought only as far as the First World Science-Fiction Con-

vention of July, 1939: it is continuing in the *Commentator* and may some day appear complete.

It will be interesting to see what historians and students of mass psychology make of this history, if ever they see it. Fandom can read it as a chronicle of its own birth and young adolescence, though for a truly comprehensive history it suffers from its isolated viewpoint and the extent to which it concerns itself with the internal strife in the most vocal and active section of the fan world.

As Moskowitz points out, the first of the fan organizations, the Science Correspondence Club—later International Scientific Association—was a

counterpart to the Gernsbackian philosophy of science fiction. Gernsback believed—and many with him—that science fiction existed as a new and powerful medium for teaching the facts, theories, and understanding of science to hosts of people who would never gain this information through normal educational channels. The stories of this formative era considered the description of a flight through weightlessness, the surface of the Moon or Mars, or an exposition of some of the quirks and paradoxes of relativity ample justification for using up several thousand words in which very little might happen. This was, in a sense, the Jules Verne school of science fiction burgeoning into a world which would have left Verne gasping.

The ISA was formed quite consciously to parallel this with self-education in the more factual and less fictional sides of science. Members would exchange knowledge and argue out opinions, as they were doing in the readers' columns of *Amazing Stories* and the magazines which followed it. That the ideas and hypotheses offered in the mimeographed pages of *Cosmology*, the club magazine, were immature or downright infantile meant only that the members were for the most part young and more eager than experienced. But the pattern was set from the first, and it held true in spite of schism and feuding: a publication through which members, or a few of them, might achieve a maximum of

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self-expression about a world which had fallen on its face a few years before in the crash of 1929.

It is impossible not to trace a parallel with the flurry of pamphleteering which arose out of the religious controversies of the Renaissance and raged through the seventeenth and eighteenth centuries to simmer along more quietly in our own times. Here was the same social turmoil, in which young people and a few adults with young ideas were trying to find a way to express themselves. Here was revolt against conservatism, the offering of new ideas, given dignity of a kind in print—even if only on a mimeographed sheet. The host of ephemeral personal publications which arose is almost uncountable: even their own author-editor-publisher-distributors cannot always remember what they wrote or published, or when, or why. But it is significant that through such an account as "The Immortal Storm" runs a constant refrain of names of men and women who used this annealing process to confirm their own abilities as writers or editors of science fiction on a maturer level. Significant, too, is the fact that a rather large circle of writers, such as H. P. Lovecraft, A. Merritt, Dr. David Keller, took the movement seriously and did their best to encourage it to lift itself, as it were, by its own shoe strings—bootstraps being too rugged a term to describe the tenuous link which often held a fan to his publication.

Out of such a ferment naturally developed factionalism, and this Moskowitz shows well, or perhaps too well, for it is the side of the "storm" to which he devotes himself most exhaustively, and at times exhaustingly. The first rift came with growing fan interest in science fiction in itself, as a medium of expression, a genre in literature, and a medium for conveying ideas. Here the die-hard Sykora faction, which held doggedly and bitterly to the original Gernsbackian concept that science fiction was for the stimulation and elucidation of amateur science, fought a losing battle. As the depression years wore on, there were far more young people who could express their ideas about fiction and its practitioners than there were those who could afford to educate themselves, formally or informally, in any field of science. Still, there was always a small but strong and convinced fan support behind experiments in rocketry, and conviction that atomic energy would come our way.

The second, and perhaps inevitable rift, came with the faction which sought in science fiction a medium for expressing its ideas about social experimentation. In the 1930s this meant communism, and it is the series of efforts of the proponents of this "Michelism"—as it became known after the fan who opened the not-very-cold war at the 1937 science fiction convention in Philadelphia—to take over organized fandom and its means of



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"... I should like to add that I enjoyed taking this course, and my correspondence with you."—*Vice-President of Insurance company, New York.*

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expression with which the greater part of "The Immortal Storm" deals.

Donald Wollheim seems to emerge as the Satan of this story, due, perhaps, to his having been the hottest and most personal opponent with whom the author of this history was engaged. And it is a story of politicking at its most pragmatic. There were very few tricks which the Wollheim-Michel hosts seem to have overlooked in their efforts to move in on the Fantasy Amateur Press Association and to raise their own organizations to the position of supremacy.

All this may seem much ado about very little when one learns that Moskowitz considers that in 1938, at the height of the storm, there were only about fifty "active fans" in the country, compared with some tens of thousands of science fiction readers. Surely what one tenth of one per cent of science fictiondom was about could

be of little importance.

But these fifty—and old and faithful followers of the readers' columns in this and other magazines could probably name a good few from memory—stood for the tens of thousands. Perhaps they wrote to and for each other, and still do: still they wrote, they argued, they tried out new ideas for size, they showed—in what most critics would have considered a field of purely escape reading—a kind of ferment of thinking which other branches of fiction did not produce. Michelism—socialism—found strong, natural, native-born opposition stemming out of the same sources which had strengthened it: freedom to think, and thinking, to act in line with that thought.

"The Immortal Storm" tells one man's story of the fan movement as it was half a generation ago. Perhaps fandom has changed—but the fan

magazines still roll off the mimeographs or are peeled off the hectographs. Useful, mature bibliographical work is still being done in fan pages; new writers are trying the sound of their typewriters, and new artists are struggling with a particularly intractable medium. Sound editorial judgment and a good deal of top-rank skill are being shown by young men and women—probably in their teens—who may some day be editing this and other magazines as their predecessors have done and are doing. And shortly after this appears, another World Science Fiction Convention will be assembling in Chicago. The thunder of the “immortal storm” of science fiction fandom is still rolling and the lightning still flashing—and as one storm cloud contains the power of thousands of atomic explosions, perhaps the storm of fandom will in time show that it, too, holds more latent energy and harnessable power than many a critic or professional deprecator of science fiction.

---

THE SEA AROUND US by Rachel L. Carson. Oxford University Press, New York. 1951. 230 pp. \$3.50

It seems to me that we need to restore a venerable but useful term to describe a type of scientific writing which is becoming increasingly prevalent in our time. The term is “natural philosophy”—an approach to science

which tries both to describe and to reason, to explain what man has found in the universe and to interpret those findings in terms of a universal pattern of cause and effect. Books of this sort have been commonest in the field of astronomy—or, rather, cosmogony. Jeans and Eddington set the style in the present century; Gamow, Hoyle, and others are carrying it on. Now, in a best-selling book on oceanography which had gone into twelve printings before I could lay hands on a copy, Rachel Carson has added a distinguished title to the growing list.

An aquatic biologist, now editor-in-chief of the United States Fish and Wildlife Service, Miss Carson has had professional training to implement her rare faculty of seeing in the round—indeed, in four dimensions, with a deep perspective in time as well as space. She is an ecologist—perhaps a born ecologist, for the ability to perceive the world of animate and inanimate things as a complexly interrelated community is all too rare in this era of specialization. Maybe the ecological mind is one of those indicators of *Homo superior* of which your editor was speaking a few months ago.

“The Sea Around Us” carries its readers into a world of strange properties, strange forces, and strange life as bizarre as any that writers have imagined among the stars. Yet this is a world at our doorsteps—the world that gave life to the planet. How bound by our inland heritage most of us are,



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and how ignorant of the forces with which the seas shape our upland environment, will be clear to anyone who dips into this fascinating book. There should be a rich store of inspiration here for any writer trying to create imaginary worlds, and a treasury of wonders for the general reader.

Most high school and college courses in elementary physics would deny the possibility of transverse tidal waves, vaster than any known at the surface, moving *within* a fluid medium. Yet these gigantic submarine waves have, we learn, been known for half a century. Rolling along some invisible interface deep down in the blackness that cloaks the greater portion of our planet, they exert a subtle but vital effect on the coasts against which they break. Forty years ago the Swedish oceanographer, Otto Pettersson, wove out of the fact of their existence and the nature of their behavior a theory of tidal rhythms which seems

to go a long way toward explaining and predicting the major climatic changes which shape our history. Science fiction, with its concern with the future, should certainly take the Pettersson cycles into account in prognosticating the changes of the next few centuries or millennia.

Meteorologists have only recently accepted evidence which many laymen believed that they could detect within the span of their own lives, that the climate of the North Atlantic area is growing warmer. As Miss Carson shows, these changes—reduced snowfall, melting glaciers, ice-free polar seas, southern birds and animals extending their ranges northward—are almost world-wide. Moreover, they fit into a pattern which Pettersson predicted before the evidence for the contemporary changes had been collected, correlated, or evaluated. If his tidal theory holds, we are moving into a period of tidal minimum, at the

bottom of Pettersson's eighteen-hundred-year great cycle, which should bring us in about four hundred years into an era as warm as that of the early Middle Ages, when cattle could be pastured and grain and orchards grown in Greenland, when the Vikings and other early sailors penetrated with relative ease into the polar seas.

Between these periods of mildness come the tidal maxima, when the great sub-sea waves roll most strongly through the deeps and penetrate far into the shallower ocean basins of the world. The dark and stormy era of the third and fourth centuries B.C.—the Fimbul-winter of the northern sagas—when the North Sea inundated Jutland and drove the Teutonic tribes south into Gaul came at a Pettersson maximum. Nine hundred years later the ice closed in again, the Greenland settlements were wiped out, famine swept Europe and the wolves came down out of Scandinavia across the frozen Baltic which became a winter highroad between Sweden and the Danish isles. At the same time the invisible tides swept great schools of herring into the Baltic.

Will our dreams of planetary and interstellar wandering be lulled in another four hundred years, in a new Dark Age of cultural inertia, as the Pettersson waves bring warmth and new productivity to the northern half of the world? If so, then Fimbul-winter must follow in its time. Will we, by then, have learned to harvest the rich-

ness of the sea around us? Will we have learned how oil is made in the sediments of the ocean floor? Will we be able to draw upon the mineral riches of the seas when our upland lodes are exhausted? Will we be able to control the oceanic forces which now control us?

To anyone who responds to the blend of facts and ideas which a natural philosopher like Rachel Carson can assemble—and that should mean to any reader of Astounding Science Fiction—"The Sea Around Us" is required reading.

---

**SHIP OF DESTINY** by Henry J. Slater.  
Thomas Y. Crowell Co., New York.  
1951. 187 pp. \$3.00

In two days and nights, during March 1961, the Earth will achieve isostatic equilibrium through a worldwide upheaval in which the present land-masses will be submerged under a planetary sea with a nearly uniform depth of a mile. A few ships will survive: the largest, the great new liner *York Castle* carrying passengers and crew to the number of about three thousand. Finding England, and indeed all of Europe gone, its captain will refuel and provision his ship from a freighter which seems to be the only other survivor of the cataclysm, and set a wandering course through calm and storm, mutiny and pestilence, in search of some last trace of land—

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Most writers are tempted sooner or later to try a "Grand Hotel" novel, throwing together a selected or random sample of humanity under adverse circumstances and letting nature—and human nature—take their course, variously abetted by the complications known as plot and counterplot. Henry J. Slater, English ex-"Sparks," journalist, and insurance clerk, appears to have tried the gambit for his first book with mediocre success. Perhaps this can be laid to the stuffiness of his radioman narrator, Edward Wroughton, but the style and atmosphere of the book verge on the late Victorian and climax treads on the heels of climax with the well-timed regularity of a small mob of supernumeraries crowding on-stage for a mob scene in a high school play. Undoubtedly this is to be considered literature rather than pulp fiction, but wooden characters or not it lacks the

suspense and motion which we have come to expect and demand from such a tale.

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**THE WEAPON MAKERS** by A. E. van Vogt. Greenberg, New York. 1952. 220 pp. \$2.75

By reprinting this story of Robert Hedrock and the Empress Innelda of Isher—first published in book form about five years ago by Hadley—Greenberg has now made the entire saga of the Weapon Makers available between hard covers.

This book follows by several years the events of "The Weapon Shops of Isher" and makes much clearer the nature of the Weapon Shops and their relation to Robert Hedrock, Earth's lone immortal man. It shows how the scheme of a permanent, built-in Opposition to the Isher empire's potential tyranny, which Hedrock initiated in

the distant past, at last came on the verge of backfiring at a time when cosmic forces had begun to play on the Empire and the Weapon Makers. By drawing on the derivatives of his immortality, Hedrock is able to keep control of events—but only at the expense of a final loss.

Less pretentious and possibly less profound than the "Null A" books which followed them, the Weapon Shop stories stand next in appeal to "Slan" and the original "Space Beagle" novelettes, for many readers. You should have them both.

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**THE HEADS OF CERBERUS** by Francis Stevens. Polaris Press, Reading, Penna. 1952. 191 pp.

As has been announced before, Lloyd Eshbach, one of the canniest of our fantasy publishers, is launching a new limited-edition venture in fantasy rarities, Polaris Press, with this legendary novel by a legendary author. The story appeared in Street & Smith's *Thrill Book* in 1919 under a pen name which shortly became famous. It hid the talents and personality of a young woman, Gertrude Bennett, who is as much a mystery as her work has been a much-sought rarity in fantasy collections. Eshbach's introduction to this handsomely printed edition of fifteen hundred copies of her least accessible novel reveals much that has never been known before about this

rival and contemporary of Merritt.

"Hheads of Cerberus" blends fantasy with a satire of the future—Philadelphia in the year 2118, run by a hierarchy of politicians under the mocking name of Penn Service. The satire reads a bit like Mitchell's "Last American," but a little more heavy-handed; the pure fantasy of the transitional bit, in which a handful of people are transported by the dust through a timeless realm into the future, shows the touch which won "Stevens" a lasting reputation in such better known novels as "Claimed" and "Citadel of Fear." Certainly the book is dated and old-fashioned, but it is published as a collectors' item and that it certainly is.

Incidentally, "Cerberus" can be read as a pioneering variation on the parallel worlds theme. The Philadelphia of Penn Service, in which time has run faster than in our stream, has reached 2118 by the time we have reached 1918—splitting off at some past choice in a manner now traditional in science fiction. On this basis, the dream-world of Ulithia would be a branch in which time had flowed faster still, so that thousands or tens of thousands of years had passed during a few decades of our time.

If you're strictly a modernist in science fiction, this is nothing for you; if you're a collector and student of the form, it and the whole Polaris line will be musts.

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